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INDEX TO VOLUME LIV

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JULY TO DECEMBER, 1928

# ILLINOIS MEDICAL JOURNAL

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The Illinois State Medical Society

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# INDEX TO VOLUME LIV

JULY TO DECEMBER, 1928

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles of

papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

## A

- Abell, Irvin. Paper..... 263  
Aird, Florence. Paper..... 462  
Alcoholism in the Army. (E).... 409  
Alguire, Alden. Discussion..... 123  
Alloway, F. L. Discussion..... 195  
A. M. A. Meeting at Minneapolis.  
(E) ..... 172  
American College of Physicians,  
New Orleans Meeting. Samuel  
E. Munson, Springfield..... 110  
American Public Health Associa-  
tion. (E) ..... 98, 184, 252  
Annual Meeting, Official Minutes.. 9  
Antivivisection Bill. (E)..... 408  
Arthritis. John A. Macgregor,  
London, Ont..... 287  
Arthropathies, Chronic. Charles P.  
Emerson, Indianapolis, Ind..... 196  
Ashbaugh, R. A. Paper..... 129  
Asthma, Bronchial, Pernicious Ane-  
mia, Unknown Fever. Karl Koess-  
ler, Chicago..... 147  
Asthma, Rhinological Problem in.  
Burton Haseltine, Chicago..... 417

## B

- Bassoe, Peter. Paper..... 76  
Beach, S. C. Paper..... 304  
Beilin, Davis S. Discussion..... 317  
Beilin, Leon M. Paper..... 345  
Bidwell, Charles L. Paper..... 350  
Biological Factors Re Mental Mech-  
anism. Frank P. Norbury, Jack-  
sonville ..... 309  
Births Should Be Registered, Why.  
(E) ..... 339

- Bishop, Eugene L. Paper..... 423  
Black, Carl E. Paper..... 146  
Blaine, E. S. Discussion..... 123  
Blaine, Edward S. Paper..... 123  
Blodgett, P. R. Paper..... 151  
Foot, George W. Paper..... 62  
Brenerman, Lewis Wine. Paper... 373  
Brennemann, Joseph. Paper..... 452

## C

- Cady, Lee D. Paper..... 364  
Cancer, Cause of. (E)..... 326  
Cancer Death Rate Increasing. (E). 326  
Cancer of the Larynx. R. C.  
Lynch, New Orleans..... 40  
Cancer, Lead Treatment of. (E).. 340  
Carcinoma of Large Intestine. Irvin  
Abell, Louisville, Ky..... 263  
Carcinoma of the Rectum. L. E.  
Handelman, Chicago..... 229  
Carcinoma of the Esophagus. M.  
H. Streicher, Chicago..... 449  
Carter, Ralph M. Paper..... 231  
Cesarean Section, Abuse of. Percy  
W. Toombs, Memphis, Tenn.... 272  
Cheney, Volney S. Paper..... 218  
Child Welfare Extension Service.  
(E) ..... 3  
Chorea, Clinical Observations. Jesse  
R. Gerstley, Chicago..... 117  
Circumstantial Evidence, What  
Value. Thomas P. Foley, Chicago 73  
Clinical Congress of Physical Ther-  
apy. (E)..... 99  
Colitis, Membranous, Due to Rectal  
Gonorrhea. William A. Mar-  
shall, Chicago..... 368

- Colostomy, Preparation of Patient.  
Charles J. Drueck, Chicago..... 220  
Corbus, Budd C. Paper..... 341

## Correspondence:

- Basic Science Law. John R.  
Neal ..... 95  
Big Medical Meeting. Small  
County. H. M. Camp..... 180  
Christian Science Turn-About in  
Tactics. V. M. Vickery..... 333  
Cook County Health School..... 182  
Cook County Physicians and cor-  
oner's Office. Thomas P. Foley. 181  
Des Plaines Protests to Cook  
County Board ..... 412  
Don't for Doctors. Florence Aird 97  
Farmer Has Deserted the Doc-  
tor. Paul R. Howard..... 181  
If Doctors Won't, Farmers Will.  
W. D. Chapman ..... 95  
Illinois Organization Ahead. J. R.  
Neal ..... 39  
Legislation. Vida A. Latham.... 38  
Medical Profession and Volun-  
teers. S. W. Welch..... 259  
Michigan Sends Thanks for His-  
tory. C. B. Burr..... 39  
National T. B. Association Activ-  
ities. G. Henry Mundt..... 259  
Newton Bill Same as Sheppard-  
Towner. John J. A. O'Reilly.. 96  
Pre-election Education. J. R. Neal 334  
President Kinley Re State Medi-  
cine ..... 338  
Rotarians' Clinics Directed by  
Medical Societies. R. R. Fer-  
guson ..... 95



- Substitute Aet Makes Appeal.  
Marguerite Benson..... 30
- University of Illinois Has Ideal  
System. Cleaves Bennett..... 94
- University of Illinois Not in  
Practice. D. J. Davis..... 337
- Volunteer Health Work and State  
Medicine. George Thomas Pal-  
mer ..... 337
- What If Nobody Cared. J. R.  
Neal ..... 260
- Women's Auxiliary News. Mrs.  
G. Henry Mundt..... 411
- Cottle, M. H. Paper..... 191
- Cox, H. Hoyt. Paper..... 157
- D
- Deafness, Treatment of Chronic.  
Harry M. Thometz, Chicago..... 59
- Deaths:
- Achatz, Frank H., Chicago..... 168
- Augustine, John C. Batavia, Ill.. 324
- Auld, John M., Chicago..... 168
- Askins, Abram Walter, Findlay,  
Ill. .... 400
- Ball, R. M. Charles, Monmouth,  
Ill. .... 400
- Bartholomew, Roy W., Evanston,  
Ill. .... 248
- Bell, J. A., Naperville, Ill..... 468
- Bennett, William Aloysius, Chi-  
cago ..... 324
- Berry, Albert C., Chicago..... 84
- Bovee, Richard W., St. David, Ill. 324
- Bozinch, Matthew F., Chicago... 168
- Chase, Oscar Ellis, Chicago..... 400
- Clancy, Eugene Gregory, Chicago 248
- Clinton, John E., Whittington, Ill. 324
- Conant, Philo C., Roseville, Ill.. 468
- Crawford, Peter, Jr., Chicago.... 324
- Crenshaw, John Werner, Chicago 400
- Cohen, Sylvan Gabriel, Chicago.. 84
- Conant, Philo Bierce, Roseville,  
Ill. .... 400
- Dale, Marion Carrol. McLeans-  
boro, Ill. .... 468
- Davis, Charles Gilbert, Chicago. 468
- Davis, William H., Fairfield, Ill.. 248
- Davidson, Thomas Warner,  
Springfield, Ill..... 84
- Diesel, Grover John, Millstadt, Ill. 400
- Downes, Arthur W. K., Chicago. 468
- Drennan, Gilbert Dadds, Wood-  
hull, Ill..... 84
- Dunlap, James A., Mechanicsburg,  
Ill. .... 84
- Elliott, Benjamin Edelstein, Chi-  
cago ..... 248
- Encke, John Jay, Aurora, Ill.... 400
- Eskey, Franklin Watson, Sterling,  
Ill. .... 468
- Erickson, Russell Joseph, Chi-  
cago ..... 324
- Fairchild, John Edward, May-  
wood, Ill. .... 248
- Falker, William Henry, Chicago. 468
- Flexer, John R., Joliet, Ill..... 168
- Foulon, Zephaniah S., East St.  
Louis, Ill..... 168
- Fullenweider, Robert Cooper, La-  
Salle, Ill..... 324
- Furlong, Moses, Chicago..... 468
- Glasco, Fred Harrison, Alto Pass,  
Ill. .... 324
- Gould, George Sylvanus, Lostant,  
Ill. .... 400
- Green, Thomas J., Salem, Ill... 468
- Greer, Joseph H., Chicago..... 468
- Grimes, Rollo James, Kankakee,  
Ill. .... 468
- Guenther, Theodore C., Chicago. 468
- Hamilton, John, Newton, Ill..... 400
- Harrell, Francis Marion, Cairo,  
Ill. .... 468
- Hartung, Henry, Chicago..... 468
- Hayes, Patrick B., Chicago..... 468
- Hessert, William. Chicago..... 468
- Hill, Edward L., Jacksonville, Ill. 248
- Hobart, Austin W., Chicago..... 84
- Hughes, William Talmadge, Oak  
Park, Ill..... 84
- Hunt, George C., Chicago..... 84
- Hutson, Euphrates G., Benton,  
Ill. .... 84
- Hummeland, Karl S., Maywood,  
Ill. .... 324
- Jackey, Fred David, Chicago.... 324
- Jeffries, John W., Waltonville,  
Ill. .... 168
- Jolley, Louis Burton, North Chi-  
cago, Ill..... 248
- Johnson, Charles B., Champaign,  
Ill. .... 84
- Johnson, Colonel Manfred, Har-  
vard, Ill..... 324
- Kahn, Harry, Chicago, Ill..... 248
- Kail, John William, Chicago.... 84
- Katz, Bernard Gerson, Chicago.. 84
- Kauffman, Jacob Snyder, Chicago 400
- Knox, William T., White Hall,  
Ill. .... 84
- Krumrine, Jacob A., Chicago..... 248
- Lambert, Lucian Seneca, Gales-  
burg, Ill..... 84
- Langston, Merritt E., Peoria, Ill.. 248
- Le Master, Benjamin E., Bush-  
nell, Ill..... 248
- Lichy, Daniel, Rockford, Ill..... 248
- Litvin, Abraham, Chicago..... 468
- Long, Judson H., Moline, Ill.... 400
- Marcy, Milton S., Peoria, Ill.... 248
- McDonald, John Theodore, Chi-  
cago ..... 84
- Messner, Lewis Curtis, Potomac,  
Ill. .... 248
- Miller, James B., Marion, Ill.... 84
- Mosely, Allen K., Grandview, Ill. 248
- Newberry, George W., Smith-  
field, Ill..... 468
- Niergarth, William, Pekin, Ill.. 468
- Orr, Julia, Chicago..... 468
- Penniman, Alfred Rowe, Tamms,  
Ill. .... 468
- Poos, Robert Christian, Okaw-  
ville, Ill..... 400
- Perkins, Jacob B., Franklin, Ill. 468
- Potter, Jay Albert, Lombard, Ill. 248
- Rand, Harry G., Chicago..... 84
- Ruppert, George Frederick, Elgin,  
Ill. .... 168
- Ryerson, Charles D., West York,  
Ill. .... 168
- Scott, Ralph Beedle, Venice, Ill.. 168
- Scott, William H., Dallas City,  
Ill. .... 248
- Shaffer, Edward F., Grayslake,  
Ill. .... 168
- Sheldon, Edwin Marvin, Ashton,  
Ill. .... 248
- Slater, Paul A., Hindsboro, Ill. 468
- Slaughter, Albert Wilkin, Paris,  
Ill. .... 400
- Smith, William Hammond Cross,  
Godfrey, Ill..... 84
- Smith, James Vincent, Chicago.. 468
- Spec, Joseph Theodore, Chicago,  
Ill. .... 324
- Sprague, Loyal Tyler, Peoria, Ill. 400
- Thon, Harry Charles, Woodstock,  
Ill. .... 84
- Thorner, James Mathew, Car-  
thage, Ill..... 84



- Unland, William George, Berwyn, Ill. .... 400
- Von Kotsch, Rudolph Heinrich, Chicago ..... 84
- Walbridge, Luther Peck, Decatur, Ill. .... 248
- Walker, Fred C., Peoria, Ill. .... 400
- Watson, James Eldridge, Pekin, Ill. .... 84
- Weis, Edmund W., DeLand, Fla. 468
- Welch, Frank J., Bloomington, Ill. .... 248
- Whiteside, Robinson Richard, Moline, Ill. .... 84
- Wiener, Alexander C., Chicago... 248
- Wilder, George J., Chicago..... 400
- Willing, William Cosgrove, Chicago ..... 84
- Winans, Edward Clark, Chicago.. 400
- Yerkes, Lathy L., Alton, Ill. .... 400
- Disability Following Head Injuries.  
Ralph M. Carter, Green Bay, Wis. .... 231
- Diverticula of the Stomach. P.  
B. Goodman, Peoria..... 444
- Drueck, Charles J. Paper..... 220
- Dunham, Royal W. Paper..... 267
- Dyspepsia, Diagnosis and Treatment  
of Nervous. Lee D. Cady, St.  
Louis, Mo..... 364
- E**
- Earle, C. A. Paper..... 433
- Editorials:
- Alcohol in Illinois..... 409
- Alcoholism in the Army..... 409
- A. M. A. Meeting in Minneapolis 172
- American Public Health Association..... 98, 184, 252
- Antivivisection Bill..... 408
- Births Should Be Registered.... 339
- Cancer, Cause of..... 326
- Cancer Death Rate Increasing... 326
- Cancer, Lead Treatment of..... 340
- Child Welfare Extension Service. 3
- Clinical Congress of Physical  
Therapy ..... 99
- Educational Committee Achieves  
Results ..... 90
- Educational Committee in November  
and December..... 409
- Educational Committee Offers  
Topics ..... 1
- Farm Relief from Medical Stand-  
point ..... 90
- Farmers Will Demand State Medi-  
cine ..... 92
- Fifth Councilor District Picnic.. 170
- Florida Physicians Asleep..... 2
- Georgia State History of Medicine 327
- Government Medicine..... 86
- Greene County Endorses Smith.. 176
- Harris, President-Elect A. M. A. 170
- Hazards of Medical Practice.... 401
- Health Agencies, Voluntary and  
Public ..... 254
- Hodgen-Mudd Honored..... 253
- Hospital Care, Cost Increase.... 327
- Hospital Competition Unfair.... 177
- Illinois vs. Pennsylvania Control  
of Cults..... 406
- Interstate Post-Graduate Assem-  
bly Program..... 187
- Leprosy a Vanishing Disease.... 325
- Medical Service at Universities.. 4
- Merry Christmas ..... 401
- Nurses Plentiful, Badly Distrib-  
uted ..... 176
- Pay Clinics for Chicago..... 403
- Physicians in Politics..... 250
- Physicians in Rural Communities,  
Scarcity of..... 328
- Rabies, A Menace..... 100
- State Medicine, Definition of.... 402
- State Medicine, Essential Fea-  
tures of..... 402
- State Society (Another) Writing  
History ..... 171
- Sterility in the Male..... 189
- University of Illinois in Practice  
of Medicine..... 85
- Vote November 6..... 249
- Ward Boss Control..... 169
- Women's Auxiliary Letter..... 331
- Women's Auxiliary News..... 330
- Women Flay Feminist Bloc..... 87
- Educational Committee Achieves Re-  
sults. (E)..... 90
- Educational Committee Offers Top-  
ics. (E)..... 1
- Educational Committee in Novem-  
ber and December..... 409
- Educational Committee Has Gone  
Far. Charles J. Whalen, Chicago 413
- Eisendrath, Daniel N. Paper..... 44
- Elkins, H. A. Paper..... 122
- Emerson, Charles P. Paper..... 196
- Endurance (Marathon) Dancing,  
Clinical Manifestations. Max  
Threk, Chicago..... 114
- Epilepsy, Cause and Treatment of.  
R. A. Ashbaugh, Kankakee.... 129
- Eye Re General Diseases. Meyer  
Wiener, St. Louis..... 377
- F**
- Falls, Frederick H. Paper ..... 224
- Farm Relief from Medical Stand-  
point. (E)..... 90
- Farmers Will Demand State Medi-  
cine. (E)..... 92
- Fifth Councilor District Picnic. (E) 170
- Fisher, Hart E. Discussion..... 71
- Fischer, Martin H. Paper..... 428
- Flesher, Roy Emmert. Paper..... 48
- Florida Physicians Asleep. (E).... 2
- Foley, Thomas P. Paper..... 73
- Fox, Noah, Paper..... 68
- Fractures, Points in Treatment.  
Daniel H. Levinthal, Chicago.... 201
- Fractures, Treatment of Simple.  
T. Arthur Johnson, Rockford,  
Ill. .... 439
- G**
- Georgia State History of Medicine.  
(E) ..... 327
- Gertsley, Jesse R. Paper..... 117
- Goiter, From Standpoint of Sur-  
geon. David C. Straus, Chi-  
cago ..... 101
- Gonorrhea, Clinical Observations.  
Leon M. Beilin, Chicago..... 345
- Goodwin, P. B. Paper..... 444
- Gonorrhea, Treatment in European  
Clinics. J. S. Grove, Chicago.... 381
- Government Medicine. (E)..... 86
- Greene County Endorses Smith... 176
- Grove, J. S. Paper..... 381
- H**
- Handelman, L. E. Paper..... 385
- Handelman, L. E. Paper..... 229
- Hanford, C. W. Paper..... 50
- Harris, President-Elect of A. M.  
A. (E)..... 170
- Haseltine, Burton. Paper..... 417
- Hazards of Medical Practice. (E). 401

- Health Agencies, Voluntary and Public, Should Consult Profession. (E)..... 254
- Hedblom, Carl A. Paper..... 134
- Heliotherapy, Limitations in Pediatrics. L. W. Sauer, Evanston.. 296
- Hemorrhage, Spontaneous, Cerebral and Meningeal in Young Adults. LeRoy H. Sloan and Charles L. Bidwell, Chicago..... 350
- Hibbert, G. F. Paper..... 209
- Hill, Roland. Paper..... 214
- Hodgen-Mudd Honored. (E)..... 253
- Hollender, A. R. Paper..... 191
- Holmes, William H. Paper..... 300
- Hospital Care, Cost Increase. (E). 327
- Hospital Competition Unfair..... 327
- Hulbert, Harold S. Paper..... 321

## I

- Ileus, Chronic Duodenal. Edwin M. Miller, Chicago..... 80
- Illinois vs. Pennsylvania Control of Cults. (E)..... 406
- Industrial Medicine Re Private Practitioner. Frank L. Rector, Chicago ..... 69
- Interstate Post-Graduate Assembly Program. (E)..... 187
- Iodine Therapy in Pulmonary Tuberculosis. S. Loumos, Chicago. 461

## J

- Johnson, T. Arthur. Paper..... 439

## K

- Keister, W. S. Paper..... 54
- Kidney Infections, Treatment of. Daniel N. Eisendrath, Chicago.. 44
- Kidney, Movable. Lewis Wine Bremerman, Chicago..... 373
- Koessler, Karl. Paper..... 147
- Koucky, John D. Paper..... 357

## L

- Labor, Second and Third Stages of. G. F. Hibbert, Chicago..... 209
- Ladova, Rosalie M. Discussion.... 200
- Langhorst, Henry F. Paper..... 298
- Larkin, A. James. Paper..... 315
- Laryngeal Crisis of Tabes. Noah

- Fox, Chicago..... 66
- Legg's Disease. Robert C. Loneragan, Evanston, Ill..... 221
- Leprosy, A Vanishing Disease. (E) 325
- Levinthal, Daniel H. Paper..... 201
- Loneragan, Robert C. Paper..... 221
- Loumos, S. Paper..... 461
- Lusk, Frank B. Paper..... 237
- Lynch, R. C. Paper..... 40

## M

- Macgregor, John A. Paper..... 287
- Markson, D. E. Discussion..... 199
- Marriages:
- Marriages.....82, 167, 245, 323, 398
- Adler, Julius, Chicago..... 167
- Bernheimer, Leopold Benno, Chicago ..... 398
- Blonder, Edwin Jean, Chicago.... 323
- Brown, Seth Edwin, Evanston, Ill. .... 323
- Carrig, Milton H., Chicago..... 167
- Condon, Edwin F., Rock Island, Ill. .... 245
- Emanuele, Nicola V., Chicago... 245
- Grennan, John W., Chicago..... 466
- Hammond, Francis Peery, Chicago ..... 82
- Hunt, Ross Edgar, Belvidere, Ill. 323
- Leipold, Arthur Thomas, Moline, Ill. .... 398
- Levine, Howard Jack, Chicago... 82
- McAdams, James C., Kansas, Ill. 398
- Mullen, Bernard P., Chicago.... 245
- Portis, Bernard, Chicago..... 82
- Seyfarth, Mac Harper, Freeport, Ill. .... 323
- Shepperd, Douglas, Peoria, Ill.... 398
- Tashma, Sigmund S., Zeigler, Ill. 167
- Trovillion, Milo H., Metropolis, Ill. .... 245
- Marshall, William A. Paper..... 368
- Mayers, Lawrence H. Discussion... 200
- McClanahan, V. B. Discussion.... 120
- McKinley Test for Epidemic Encephalitis Lethargica. Harold S. Hulbert, Chicago..... 321
- McShane, John J. Discussion..... 58
- Medical Profession Re Public Health Officials. Samuel W. Welch, Montgomery, Ala..... 279
- Medical Service at Universities. (E) 4

## N

- Medical Economics from the Standpoint of the Physicians Wife. Florence Aird, Carterville, Ill.. 462
- Merry Christmas. (E)..... 401
- Mesentery, Injuries to the. Carl E. Black, Jacksonville..... 146
- Miller, Edwin M. Paper..... 80
- Morwitz, S. M. Paper..... 317
- Munson, Samuel E. Paper..... 110
- Neo-Natal Morbidity and Mortality, Prevention and Treatment. Joseph Brennemann, Chicago..... 452
- Nephrosis, Lipold. William H. Holmes, Chicago..... 300
- Neuroses, Etiology and Treatment of. Mandel Sherman, Washington, D. C..... 240
- News Notes.....83, 168, 246, 323, 398
- Norbury, Frank P. Paper..... 309
- Nose, Crooked, Surgical Correction of. Samuel Salinger, Chicago... 368
- Nurses Plentiful, Badly Distributed. (E)..... 176

## O

- Olkon, D. M. Paper..... 217
- Ovarian Transplantation, Clinical Aspects of. Max Thorek, Chicago ..... 389

## P

- Paranasal Sinus Infection in Infants and Children. S. M. Morwitz, Chicago..... 317
- Pay Clinics for Chicago. (E)..... 403
- Personals.....82, 167, 245, 323, 398
- Peptic Ulcer, Early. Lowell D. Snorf, Chicago..... 161
- Pettit, R. T. Discussion..... 272
- Pettit, Roswell T. Paper..... 293
- Physical Therapeutic Methods in Otolaryngology. A. R. Hollender and M. H. Cottle, Chicago..... 191
- Physician in Industry Re Private Practitioner and Community. Volney S. Cheney, Chicago..... 218
- Physicians in Politics. (E)..... 250
- Physicians in Rural Communities, Scarcity of. (E)..... 328
- Physiology of Stomach and Duo-



denum. John D. Koucky, Chicago ..... 357

Piper, L. P. Paper..... 432

Pitfalls in Diagnosis and Bronchoscopy. George W. Bock, Chicago. 62

Plummer, S. C. Discussion..... 307

Pneumothorax, Artificial Re Plural Adhesions. Royal W. Dunham, Ottawa ..... 267

Polak, John Osborn. Paper..... 352

Polioomyelitis, Acute Anterior in Adult. Peter Bassoe, Chicago.. 76

Pollock, Harry. Discussion....195, 373

Pregnancy, Toxemia of. John Osborn Polak, Brooklyn, N. Y.... 352

Private Practice at Stake. P. R. .. Blodgett, Chicago Heights..... 151

Public Health Activities, Coordination of. W. S. Keister, Decatur. 54

Puerperal Infection, Prevention of. Henry F. Langhorst, Elmhurst.. 298

Pyloric Stenosis, Congenital. Roland Hill, St. Louis, Mo..... 214

## Q

Quincke's Edema and Prostate Gland. D. M. Olkon, Chicago... 217

## R

Rabies, A Menace. (E)..... 100

Radium, Every Day Uses of. A. James Larkin, Chicago..... 315

Radium, Uses and Misuses. C. W. Hanford, Chicago..... 50

Radium and Radon in Treatment of Epithelioma. Frank Edward Simpson and Roy Emmert Flesher, Chicago ..... 48

Railway Sanitation Applied. S. C. Beach, Chicago..... 304

Rector, Frank L. Discussion..... 59

Rector, Frank L. Paper..... 69

Ritch, C. Otis. Paper..... 435

Ritter, John. Paper..... 126

Ritter, Robert O. Paper..... 284

Röntgenologist, Problems of in Small Community. H. A. Elkins. Mt. Carmel..... 122

## S

Salinger, Samuel. Paper..... 368

Sauer, L. W. Paper..... 296

Schick Test and Duration of Immunity. C. A. Earle, Des Plaines, Ill..... 433

Sherman, Mandel. Paper..... 240

Simpson, Frank Edward. Paper... 48

Sloan, LeRoy H. Paper..... 350

## Society Proceedings:

## Adams County—

June 20, 1928..... 82

Sept. 10, 1928..... 395

Oct. 15, 1928..... 396

## Adams County, Nov. 2..... 464

## Cook County—

Chicago Medical Society, Oct. 17, 24..... 396

## Cook County: Chicago Medical Society, Nov. 7, 14, 21..... 465

## DeKalb County, Nov. 8..... 465

## District Medical Society of Central Illinois, Oct. 30..... 465

## LaSalle County, Oct. 23..... 466

## Southern Illinois Medical Association, Nov. 8-9..... 466

## Macoupin County—

Sept. 25..... 397

## Tri-County—

Oct. 4..... 397

## Snorf, Lowell D. Paper..... 161

## Spinal Cord Education. Martin H. Fischer, Cincinnati..... 428

## State Medicine, Essential Features of. (E)..... 402

## State Medicine, Definition of. (E). 402

## State Society Writing History, Another. (E) ..... 171

## Stein, Irving F. Paper..... 359

## Sterile Couple, Investigation of Irving F. Stein, Chicago..... 359

## Sterility in the Male. (E)..... 189

## Straus, David C. Paper..... 101

## Streicher, M. H. Paper..... 449

## Strictures, Extrinsic Ureteral. C. Otis Ritch, Chicago..... 435

## Styloid Process, Resection of. L. P. Piper, Chicago..... 432

## T

Tennessee Plan for Tuberculosis Control. Eugene L. Bishop, Nashville, Tenn..... 423

Tenney, Alonzo C. Discussion... 272

Thometz, Harry M. Paper..... 59

Thorek, Max. Paper.....114, 389

Thyroidectomy, Complications of. H. Hoyt Cox, Chicago..... 157

Toombs, Percy W. Paper..... 273

Toxemia, Management of, Eclamptogenic. Frederick H. Falls, Chicago ..... 224

Trachoma, Review of Literature. Joseph S. Waldman, Herrin.... 139

Transplantation of Hamstring Tendons for Paralysis. Robert C. Ritter, Chicago ..... 284

Tuberculosis, Earliest Syndromes of Pulmonary. John Ritter, Chicago ..... 126

Tuberculosis, Pulmonary, Diagnosis of. Roswell T. Pettit, Ottawa... 293

Tuberculosis, Surgical Treatment of Pulmonary. Carl A. Hedblom, Chicago ..... 134

## U

University of Illinois in Practice of Medicine (E)..... 85

Ureteral Stricture. Budd C. Corbus, Chicago ..... 341

## V

Vote November 6. (E)..... 249

## W

Waldman, Joseph S. Paper..... 135

Ward Boss Control. (E)..... 169

Wassermann Reaction, Interpretation of Doubtful. Frank B. Lusk, Chicago ..... 237

Welch, Samuel W. Paper..... 279

West, Olin. Discussion..... 282

Whalen, Charles J. Paper..... 401

Winer, Meyer. Paper..... 377

Women's Auxiliary News. (E)... 330

Women's Auxiliary Letter. (E).. 331

Women Fly Feminist Bloc. (E).. 87

## X

X-rays in Progressive Medicine. Edward S. Blaine, Chicago..... 123



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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 1

### ORIGINAL ARTICLES

Cancer of the Larynx. <i>R. C. Lynch, M. D., New Orleans, La.</i> .....	40
Treatment of Kidney Infections. <i>Daniel N. Eisendrach, M. D., Chicago</i> .....	44
Radium and Radon in Treatment of Epithelioma of the Lip. <i>Frank Edward Simpson, M. D., and Roy Emmert Flesher, M. D., Chicago</i> .....	48
Uses and Misuses in Radium. <i>C. W. Hanford, M. D., Chicago</i> .....	50
Coordination of Public Health Activities. <i>W. S. Keister, M. D., Decatur, Ill.</i> .....	54

Treatment of Chronic Deafness. <i>Harry M. Thometz, M. D., Chicago</i> .....	59
Difficulties in Bronchoscopy. <i>George W. Bool, M. D., Chicago</i> .....	62
Laryngeal Crisis in Tabes. <i>Noah Fox, M. D., Chicago</i> ...	66
Relation of Industrial Medicine to Private Practitioner. <i>Frank L. Rector, M. D., Chicago</i> .....	69
Circumstantial Evidence—What Is Its Value? <i>Thomas P. Foley, M. D., Chicago</i> .....	73
Acute Anterior Poliomyelitis: Diagnosis and Manifestations in the Adult. <i>Peter Bassoe, M. D., Chicago</i> .....	76
Chronic Duodenal Ileus. <i>Edwin M. Miller, M. D., Chicago</i> .....	80

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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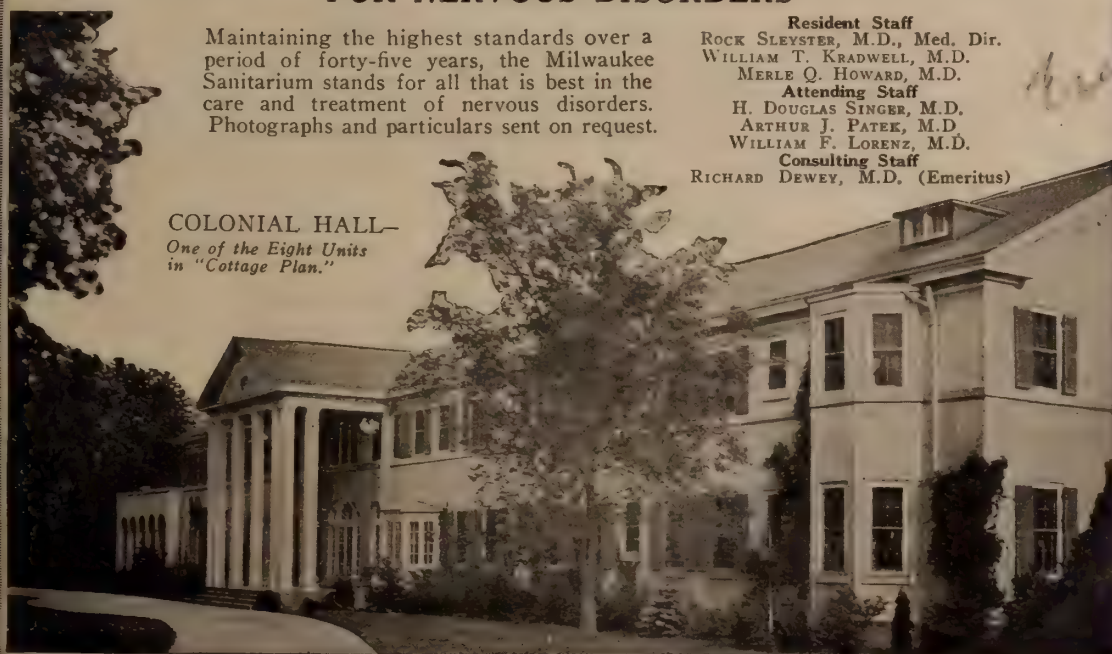
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# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

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## Editorial

### EDUCATIONAL COMMITTEE OFFERS AN INTERESTING LIST OF TOPICS FOR HEALTH TALKS TO THE CLUBS OF ILLINOIS

A new list of proposed topics for talks to be given by members of the Illinois State Medical Society has been compiled by the Educational Committee. A number of appointments have already been made for 1929 and the Committee believes that the topics given below will be of interest to many lay groups.

#### MEN'S ORGANIZATIONS

The Economics of Good Health.  
Fair, Fat and Forty.  
Man and the Microbe.  
The Changing World.  
How Are You?  
What's New in the World of Medicine?  
Longer Life and Greater Efficiency.  
Teamwork with the Community.  
Conservation of Health.  
What's Your Score?  
How Old Are You?

#### WOMEN'S ORGANIZATIONS

After the Forties, What?  
Health Inventories for Club Women.  
Social Assets.  
Fat and Thin.  
How Are You?  
Facing the Forties.  
Value of Good Health to the Business Woman.  
Conservation of Health.  
Romance of Medicine.  
Our Responsibility for Individual and Community Health.  
Teamwork with the Community.  
Now Your Child Must Go to School.  
Dodging Disease.  
Foes of Childhood.  
Physical Handicaps.  
Cold Weather Perils.



The Child and the Community.  
 Understanding the Adolescent.  
 Sanitation—Home, School and Community.

HIGH SCHOOL ASSEMBLIES OR OTHER GROUPS OF  
 BOYS AND GIRLS

A Treasure Chest.  
 Health Heroes.  
 "Beauty and the Beast."  
 On Board the Steamship Health.  
 Romance of Modern Medicine.  
 Good Health and Mental Ability.  
 Good Health and Physical Efficiency.  
 Men and Microbes.  
 Traffic Lights.  
 Health and Personal Appearance.  
 Your Length of Life.

THE PHYSICIANS IN FLORIDA WENT  
 TO SLEEP LONG ENOUGH FOR THE  
 OSTEOPATHS TO WRITE THEIR  
 OWN TICKET

KENTUCKY ALSO HAS RECENTLY BOWED TO THE  
 CHIROPRACTOR

The report of the legislative committee of the Illinois State Medical Society as reproduced below should be read by every doctor in the state. It points out in bold relief the trend of the times along medical legislative activities. The following is the letter:

LEGISLATIVE COMMITTEE

ILLINOIS STATE MEDICAL SOCIETY

Springfield, Ill., June 2, 1928.

To the Physician Addressed:

Your Legislative Committee is grateful for the fine response to the bulletin sent you prior to the primaries.

An opportunity was afforded me to check up a large number of the districts, due to the extra session of the Legislature here in Springfield, and I am very pleased to report that a number of the Legislators told me that the physicians in their districts have evidenced more interest in the election of men for political offices than ever before.

It is not a question of medical politics—it is primarily a question of citizenship. Physicians are no more exempt from their duty to the community in a political way than is any other citizen, and if he neglects to vote he is comparable to the soldier, who, in the heat of battle, throws away his gun and says that his bullet will not win the war. There is only one name

applicable to this kind of a soldier and that is the word "slacker."

Frequently medical men criticise the type of legislator who represents his district, and yet in many, many instances it can be shown that that same physician made no effort, at the proper time, to help select someone adequately capable of serving as a senator or representative.

Your Legislative Committee does not believe it is the prerogative of physicians to actively engage in political controversies, but we do believe that you should be well informed as to all matters pertaining to political problems in your respective districts, and if you are acquainted with the candidates you should make an effort to personally interview them and give them the advantage of your viewpoint of the necessary protection for the public health by maintaining the present Medical Practice Act, and denying special non-medical groups the privilege of lower educational requirements.

Illinois stands today in a most laudable position regarding matters of this sort. We have but one medical law and one Examining Board, dominated by five physicians, all members of the Illinois State Medical Society. By the persistent efforts on the part of the Council, the Editor of our Journal, and the Legislative Committee, we have been able to maintain this position, but, to nip these efforts upon the part of the cultists to get their favorite laws passed, we must take a more active part in the elections, rather than to expect the Council to stem the tide after the Legislature convenes.

The physicians in Florida went to sleep long enough for the osteopaths to write their own ticket, with the result that a recent law passed in Florida gives the osteopath full recognition as a surgeon, entitling him to hold positions in the state hospitals, and the Legislative Committee for the Medical Society of the State of Florida say, "It is possible now that the next State Board of Health will be under the control of osteopaths. The situation created by the new laws makes it more difficult for well trained physicians to secure the right to practice, and makes it easier for osteopaths, chiropractors and other cults to practice. The Committee believes that this legislation was allowed to become a law because the medical profession failed to inform the public of its dangers."

Kentucky also has recently bowed to the chiropractor, and each year it seems that one or more states capitulate, and it is no wonder that we hear a rumbling of the Basic Science laws, which have been adopted by five or more states in which the medical men have surrendered the examination of all who desire to treat the sick to a committee of laymen, and in each of these instances can the condition be directly traced to the apathy of the medical profession.

I am reliably informed that the chiropractors are going to spend more than \$100,000 in the State of Pennsylvania during the next session of the Legislature in order to get their law passed. It is also reported that there are three millionaires, two in Detroit and one in Louisville, Kentucky, who have indicated that they intend to give large sums to the chiropractors to force laws through the different states where the cultists now are denied the full privileges of the medical men.

Public sentiment is only moulded by public utterances, and there is now a fine opportunity for the physicians in every district in the State of Illinois to do some individual and effective work prior to the November election, and the least that anyone of us can do is to indicate, either by letter or a personal interview, to the candidates who are seeking election, our ideas regarding public health laws.

Ohio decisively defeated the chiropractors in a referendum throughout that state last year, but it was only done at the expense of thousands of dollars to the medical profession, besides the inestimable amount of work done by the officers and leaders of the Ohio State Medical Association.

Insidious propaganda is being carried on by the cultists in practically every district in the state at this time, but if we will heed the warnings of movements of this sort we will be able to maintain the high educational standards that we have here in Illinois. This bulletin is sent to almost a thousand physicians in the State of Illinois, and if each of them will take the matter seriously and do his individual duty, it is fair to predict that the 1929 session of the Illinois Legislature will pass no laws inimicable to the medical profession.

Yours very truly,

J. R. NEAL, M. D.,

Chairman Legislative Committee.

## BACK NUMBERS OF THE ILLINOIS MEDICAL JOURNAL WANTED

We have several requests from Libraries (which we are unable to supply) for the October 1927 number of the Illinois Medical Journal.

Any physician who can spare this number please notify us and we will be pleased to send postage for forwarding same.

We would also like back numbers of February 1926 issue of the Journal.

ILLINOIS MEDICAL JOURNAL,  
185 N. Wabash Ave., Chicago, Ill.

## HERE IS A BILL THAT HAS THE SHEPPARD-TOWNER BILL BACKED OFF THE MAP THIS CALLS FOR AN APPROPRIATION OF \$1,000,000 FOR THE CHILDREN'S BUREAU

A CHARGE OF DYNAMITE SUFFICIENT TO BLOW UP THE UNIVERSE IS CONTAINED IN THE TITLE OF THE BILL "TO PROVIDE A CHILD WELFARE EXTENSION SERVICE, AND FOR OTHER PURPOSES"

As the protagonists for the Sheppard-Towner Act cede that this vicious piece of legislation is now practically dead these mercenary socialists have proceeded to raise it by proffering a ghost that is stronger than its original entity. In fact H. R. 14070 introduced May 28 by Representative Newton of Minnesota, may be said to have the poignancy and force of a phoenix newly risen from the ashes of public wrath that consumed the Sheppard-Towner bill and its iniquities.

Perhaps at the present time, the best thing to do is to let the bill speak for itself. Herewith is its reproduction. Read this through. Then for future reference, clip it and paste it where you can easily make reference to it. In this way we will be spared the future necessity for sending additional copies to those who happen to have misplaced this edition of the JOURNAL.

H. R. 14070

IN THE HOUSE OF REPRESENTATIVES

May 28, 1928

Mr. Newton introduced the following bill, which was referred to the Committee on Interstate and Foreign Commerce and ordered to be printed.

A BILL

To provide a Child Welfare Extension Service, and for other purposes

Be it enacted by the Senate and House of Repre-



representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated, annually a sum of \$1,000,000 for the purpose of paying the expenses of a Child Welfare Extension Service in the Children's Bureau of the Department of Labor, which shall promote the welfare and hygiene of mothers and children and aid in the reduction of infant and maternal mortality: *Provided*, That of this amount not to exceed \$50,000 shall be expended by the Children's Bureau in the District of Columbia and that the remainder shall be expended either independently or in cooperation with the State or Territorial agencies responsible for or engaged in the promotion of the health or welfare of children, or through such State or Territorial agencies, with county or municipal agencies engaged in child hygiene or child welfare work: *Provided further*, That the expense of such joint services as shall be undertaken shall be defrayed from the appropriation herein authorized and such cooperative funds as may be voluntarily contributed by State, Territorial, county and municipal agencies, or child welfare or other local associations or individuals.

Sec. 2. There is hereby created an Advisory Committee of Maternal and Child Welfare for consultation with the Chief of the Children's Bureau relative to the extension work to be carried on under the provisions of this Act. Said committee shall include the Surgeon General of the United States Public Health Service, the United States Commissioner of Education, and the Director of Extension Work of the United States Department of Agriculture, who with the Chief of the Children's Bureau shall be ex officio members of the committee and serve without additional compensation. Five other members of the said committee shall be appointed by the Chief of the Children's Bureau, with the approval of the Secretary of Labor, from representatives of recognized branches of child health and child welfare work not in the regular employment of the Federal Government: *Provided*, That at least one of these representatives shall be a State health officer belonging to the Conference of State and Provincial Health Authorities of North America. The terms of service of the members first appointed shall be so arranged that the term of one member shall expire each year, the subsequent appointments to be for a period of five years. The said members not in the regular employment of the Federal Government shall each receive allowance for actual and necessary traveling expenses and hotel expenses while in conference: *Provided*, That such expenses shall not be allowed for more than ten days in any one fiscal year. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant.

Sec. 3. No portion of any moneys appropriated under the provisions of this Act shall be applied directly or indirectly to the purchase, erection, preservation, or repair of any building or buildings or

equipment, or for the purchase of any buildings or lands, nor shall any such moneys be used for the payment of any maternity or infancy pension, stipend or gratuity.

Sec. 4. No official, agent, or representative of the Children's Bureau shall by virtue of this Act have any right to enter any home over the objection of the owner thereof, or to take charge of any child over the objection of the parents, or either of them, or of the person standing in loco parentis or having custody of such child. Nothing in this Act shall be construed as limiting the power of a parent or guardian or person standing in loco parentis to determine what treatment or correction shall be provided for a child or the agency or agencies to be employed for such purpose.

The bill was referred to the Committee on Interstate and Foreign Commerce which is made up as follows:

James S. Parker, New York; John G. Cooper, Ohio; Edward E. Denison, Illinois; Schuyler Merritt, Connecticut; Carl E. Mapes, Michigan; Walter H. Newton, Minnesota; Homer Hoch, Kansas; Adam M. Wyant, Pennsylvania; Olger B. Burtness, North Dakota; John E. Nelson, Maine; Thomas J. B. Robinson, Iowa; Milton C. Garber, Oklahoma; Noble J. Johnson, Indiana; James M. Beck, Pennsylvania, Sam Rayburn, Texas; George Huddleston, Alabama; Clarence F. Lea, California; Tilman B. Parks, Arkansas; Robert Crosser, Ohio; Ashton C. Shallenberger, Nebraska; Parker Corning, New York; Jacob L. Milligan, Missouri; George C. Peery, Virginia.

### THE CHARACTER OF MEDICAL SERVICE AT MANY ENDOWED AND STATE UNIVERSITIES TENDS TO EDUCATE YOUTHS TOWARDS DEPENDENCY RATHER THAN FOR SELF RELIANCE

Practically free medical service as dispensed at many of the countries' leading universities tends to instill into the students a growing sense of dependency, rather than of self-reliance.

These boys and girls of to-day will be the fathers and mothers, the civicists, the leaders, the citizens of to-morrow. To train them in the ways of dependency is to strike at the root of American citizenship as based upon the constitutional tenets of the country.

The appended chart shows at a glance the situation at thirty-four of the leading American institutions of higher learning. The chart calls for no comment other than a careful reading. In itself the chart is an indictment and a warning.

There is no more reason why these students should be educated to receive free medical attention than that they should be taught to expect similar advantages in the way of food, shelter

or clothing. The principle of mass care treatment is not compatible with the principles upon which the United States has prospered as a democracy.

### SURVEY OF MEDICAL SERVICE IN 34 UNIVERSITIES

DECEMBER, 1927—JANUARY, 1928

Illinois Educational Committee

	UNIVERSITY OF CALIFORNIA Berkeley, California	UNIVERSITY OF DELAWARE Newark, Delaware
*1. Date Service Organized	1907	.....
2. PURPOSE OF SERVICE		
a. Physical examination for members of athletic teams only	Yes	.....
b. Physical examination of all matriculants with advice	Yes	Yes; during freshman year under direction of military department
c. Complete health program, including medical attention to sick students	Yes	.....
d. Same as c, but having clinical medical service restricted to dispensary, ambulatory, or office service	Yes, also Hospital	.....
3. WHAT IS THE PRICE OF SERVICE TO		
a. STUDENTS	Approximately \$10 per annum	.....
b. FACULTY	Do not treat	.....
4. Do local physicians cooperate in caring for student patients or is care given by physicians having full time affiliated with the university	All physicians on staff are on salary—part time (2 full time)	.....
5. How are hospital expenses and other expenses of maintaining service met	From above fee	\$1 per day while in Infirmary. University funds
	UNIVERSITY OF GEORGIA Athens, Georgia	UNIVERSITY OF IDAHO Moscow, Idaho
*1. 1912	Infirmary service 1920. Physicians' clinic service 1926	1918
2. a. ....	.....	Yes
b. ....	.....	Yes
c. Yes	.....	Yes; but separate from the two above
d. ....	Yes	Yes
3. a. \$5 per annum (not including major surgery)	\$4 per semester	None for ordinary service
b. Not given	.....	Hospital service available to these as to any citizen of state
4. By University physician. If local physician desired by patient, he pays for service	Two local physicians as University physicians have clinic hours on campus each day	No. We use University physicians
5. Largely by \$5 fee paid by each registered student	\$1.25 per day charged for board	.....
	UNIVERSITY OF MARYLAND College Park, Maryland	UNIVERSITY OF MINNESOTA Minneapolis, Minnesota
*1. About 1901	Fall of 1913	1918
2. a. ....	.....	.....
b. Yes	Yes	Includes a & b
c. Yes	Yes	.....
d. Also infirmary service	.....	.....
3. a. No charge	Annual entrance fee includes \$10 for this	\$3 quarter
b. Not given	Not included in service	.....
	UNIVERSITY OF MICHIGAN Ann Arbor, Michigan	UNIVERSITY OF MISSISSIPPI University, Mississippi
		Hospital built in 1907
		.....
		Yes
		Yes
		.....
		\$6.50 for session
		Not given



- |   |  |   |  |
|---|--|---|--|
| 4. Part time physician does all the work      | Some local physicians employed at Health Service; some physicians full time. | Full time physicians employed by Students' Health Service, although specialists are called in if occasion demands     | University physician visits hospital every day. Students may call local physicians if they prefer. |
| 5. By state appropriation and "fixed charges" | Out of budget made up from \$10 annual student fee income                    | Two days' free service at Health Service hospital; after that \$2 per day is charged to cover board and laundry, etc. | From the student fees—\$6.50 per student   |

UNIVERSITY  
OF MISSOURI  
Columbia, Missouri

- |   |   |
|---|---|
| 1. June 29, 1910  | January, 1910   |
| 2. a. No  | .....   |
| b. Yes  | .....   |
| c. Yes  | .....   |
| d. ....   | Yes   |
| 3. a. Students pay entrance fee for library, hospital and incidentals of \$30 | \$3 per semester  |
| b. None   | Not included  |
| 4. Have two full time physicians and three part time physicians               | College physician has free consultation period each day and treats patients in University hospital. Special service, nurse, etc., paid by student   |
| 5. Student fees and state appropriation                                       | Student hospital fees. Athletic fees for treatment of athletic injuries. Physical education fees for cost of physical examination. University supplies building, hospital equipment, light, heat, etc., as part of general plant. College physician and nurse paid part time salary from Hospital fee fund which also takes care of tests, dentistry, medicine, etc., Local students do not pay for and not entitled to privileges of hospital. |

UNIVERSITY OF NEVADA  
Reno, Nevada

UNIVERSITY  
OF NEW HAMPSHIRE  
Durham, New Hampshire  
1922

- |       |   |
|-------|---|
| ..... | Yes   |
| ..... | Yes   |
| ..... | .....   |
| ..... | \$4.50 per year and infirm-ary charges        |
| ..... | No service                                    |
| ..... | Have university physician                     |
| ..... | Student fee of \$4.50 per year and University |

UNIVERSITY  
OF NEW MEXICO  
Albuquerque, New Mexico

- |            |                     |
|------------|---------------------|
| 1. ....    | About 1890          |
| 2. a. .... | Not for these alone |
| b. Yes     | Yes                 |
| c. ....    | Yes                 |
| d. ....    | .....               |

UNIVERSITY OF  
NORTH CAROLINA  
Chapel Hill, Car.

UNIVERSITY  
OF NORTH DAKOTA  
Grand Forks, N. Dak.

UNIVERSITY  
OF OKLAHOMA  
Norman, Oklahoma  
Students Infirmary 1921

- |                   |   |   |   |
|-------------------|---|---|---|
| .....             | .....   | .....   | No. Athletic association pays medical services for injuries only  |
| .....             | .....   | Smallpox and typhoid inoculations given to members of R. O. T. C. Examines students entering for Mine Rescue work         | No, except girls  |
| .....             | .....   | .....   | No  |
| .....             | .....   | Dispensary in charge of nurse, with local physician serving 2 hrs. a week. If beyond province of nurse sent to physicians | .....   |
| 3. a. Nothing     | \$4 a year  | Cost of supplies deducted from breakage deposit. Other dispensary service free  | \$2.50 per semester hospital care only  |
| b. No service     | No arrangement  | Free to faculty   | .....   |
| 4. Contract basis | Full time affiliation with University                         | Local physicians 2 hrs. a week. Asking for full time physician beginning with fall of 1928                                | For girls only  |
| 5. ....           | From fees (3 above) and small appropriation from general fund | No hospital   | Hospital care \$2.50 per semester<br>Modern 50 bed hospital under construction. Plan to have 2 full time physicians |

\*See page 5 for explanation of figures and letters.

UNIVERSITY OF OREGON Eugene, Oregon	UNIVERSITY OF SOUTH CAROLINA Columbia, S. Car.	UNIVERSITY OF SOUTH DAKOTA Vermilion, S. Dak.	UNIVERSITY OF TEXAS Austin, Texas
*1. 1919; but have always had physicians on University Staff	1908	Have no organized service	.....
2. a. ....	.....	.....	Members of teams examined every season
b. Yes	Yes	.....	Yes, and follow-up attention
c. Yes	Yes	.....	Yes
d. ....	.....	.....	Not restricted to these
3. a. ....	Free except charges for board and extra nurses	.....	Nothing. Included in ma- triculation fee
b. Faculty members not treated unless at dis- pensary, then no charge	Free	.....	.....
4. ....	Local physicians cooperate	.....	.....
5. \$3 a 12-week term paid by students. University physi- cians on University payroll	State appropriation	.....	3 full time physicians and 1 part time specialist. 3 full time nurses
			Appropriation for Health Service from University
UNIVERSITY OF UTAH Salt Lake City, Utah	UNIVERSITY OF VERMONT Burlington, Vermont	UNIVERSITY OF VIRGINIA Charlottesville, Virginia	UNIVERSITY OF WASHINGTON Seattle, Washington
*1. 1920	.....	1905(?)	1920
2. a. ....	.....	.....	.....
b. Yes	Yes	.....	Yes
c. ....	No	Yes	Yes. Have infirmary
d. Yes	No	.....	.....
3. a. No extra fee	Not directly charged	50c per annum	While in infirmary are charged \$1 per day board. No charge otherwise except for personal physician or ex- tra nurse
b. No charge	No service	Not included. Reasonable fees charged	.....
4. University does not follow case off the campus except athletic injuries.	Local physicians engaged by individuals without regard to institutional connections	Physicians having full time university affiliation	Have a university physician as Dir. of Health Service on full time. He has woman physician on part time as assistant. Have full time nurses for visitation and consultation
5. No hospital service Ex- penses from general Uni- versity budget	.....	Students given 10-20% dis- count at hospital	\$1 per student per year or any part thereof
UNIVERSITY OF WISCONSIN Madison, Wisconsin	UNIVERSITY OF WYOMING Laramie, Wyoming	UNIVERSITY OF KANSAS Lawrence, Kansas	UNIVERSITY OF NEBRASKA Lincoln, Nebraska
*1. January, 1910.	No organized service	1908	September, 1920
2. a. No	.....	Not examined by health serv- ice. Under Dept. Physical Education	.....
b. Yes	.....	Not examined by health serv- ice. Under Dept. Physical Education	Yes
c. Yes	.....	Dispensary and hospital serv- ice	.....
d. ....	.....	.....	Dispensary only
3. a. \$3.50 per semester from University incidental fee	.....	\$6.00 per year	Free
b. No service	.....	Not given	Free
4. No	.....	Care given, as a rule, by staff (two part time physi- cians). Local physicians may be called by patient	Local physicians employed on part time basis

\*See page 5 for explanation of figures and letters.

5. Hospital covered by answer under 3; dispensary and salaries of staff from University budget	.....	Student fee of \$6.00 per year covers all. \$2.00 fee if patient calls staff physician to room	All expenses except hospital fees borne out of general fund raised by taxation
<b>WESTERN RESERVE UNIVERSITY</b> Cleveland, Ohio		<b>CORNELL UNIVERSITY</b> Ithaca, New York	
*1. September 22, 1927	1911	1916	1894
2. a. Examination of all athletes and supervision of athletic contests when necessary provided	.....	.....	.....
b. Yes	Yes	Yes	Yes; since 1919
c. Limited health program with medical and surgical advice as noted under d	.....	Yes. Bed cases, not self-supporting, must have private physicians and pay fees	Medical adviser on duty throughout year
d. Dispensary service (both medical and surgical is given for ambulatory cases with minor ailments. Emergency service for accidents	Yes	.....	Daily office hours for consultation and Stillman Infirmary for hospital cases
3. a. \$5.00 per school year	\$10 per annum	\$10 per annum as part of tuition fee	\$10 per year
b. Optional at \$5.00 per year	Not given	Advice only given	No service
4. No service given to students in dormitories, fraternity houses or private residences; these cared for by local physicians of student's own choosing	Yes. Ten full time physicians affiliated with University but their time is devoted to teaching, examining and dispensary	Non-self-supporting students must employ private physicians and pay regular fees Self-supporting students are cared for by members of staff of Yale School of Med.	One full-time physician and three half-time assistants
5. Hospitalization of all kinds paid directly by students and not covered by health service. Fee does not cover special examination No full time physicians. Director and all assistants are practicing physicians of Cleveland on part time basis	\$10 yearly infirmary fee. Ill students pay own physicians for medical care in infirmary	.....	.....

\*See page 5 for explanation of figures and letters.

**UNIVERSITY OF ILLINOIS**  
Urbana, Ill.  
1916

"It functions solely in the interest of the sound economy of keeping the maximum number of students healthy and in the classroom. Its purpose is to make a *physical examination of all students* and to advise those who need it to consult physicians."

"Advise those who need it to consult physicians. The doctors are chosen by the students themselves and their relation to the physicians is personal and in no sense the concern of the Health Service."

"The giving of medical attention to sick students is not a part of its program." . . . "The Health Service is neither maintained as an institution of philanthropy nor as an organization of paternalism. In both its policy and purpose, it strives to avoid altogether anything that could be called state medicine. Our sole aim is to determine the physical condition of students, give them such information as will enable them to take care of themselves and to advise them to seek proper medical and surgical attention when necessary."

"Some years ago the late Senator McKinley gave the University a hospital. Patients, whether students or faculty, who are admitted to it select their own physicians and pay their own bills for medical and hospital services. The hospital has an established rate for hospital care and the financial relation between the doctor and his patient is their own private matter."

"There has been in existence among students, and faculty for many years, a kind of voluntary mutual benefit hospital association. Those who wish to join it may do so by paying a fee of \$3.00 a semester. The organization is not an official part of the University and the fee is not collected by it. The Association pays for ward service, care of any sick members for a period of not to exceed 28 days in a semester.

"Inasmuch as the staff of the Health Service does not practice medicine, there is no price for its services. The organization is maintained as any other department of the University. Members are employed and paid on the same basis as University instructors."

"The Association pays for ward service care of any sick member for a period of not to exceed 28 days in a semester. Members of the association may go to any of the hospitals in the Twin Cities, or even elsewhere. At the end of the year the surplus funds of this association may be used for supplies and equipment for the McKinley Hospital. This is also voluntary on the part of its members. Many students do not belong to the Association. The membership at the present (April 30, 1928) is about 4,400. The association does not pay doctor's bills. Medical fees are a personal matter between the attending physicians and their patients."



**ILLINOIS STATE MEDICAL SOCIETY**  
**OFFICIAL MINUTES OF THE SEVENTY-**  
**EIGHTH ANNUAL MEETING**  
**PROCEEDINGS OF THE HOUSE OF**  
**DELEGATES**

*Chicago, May 8 and 10, 1928*

The first meeting of the House of Delegates of the Illinois State Medical Society was called to order at 10 P. M., May 8, 1928, by the President, Dr. G. Henry Mundt.

The President: The first order of business is the report of the Credentials Committee.

Dr. J. S. Nagel, Chicago: The Credentials Committee has certified 102 delegates, 50 from down state and 52 from Chicago.

The President: I will ask the Secretary to call the roll.

The Secretary called the roll and announced that a quorum was present.

The President: The next order of business will be the reading of the minutes of the last meeting.

Dr. Nagel: I move that the minutes be approved as published in the July, 1927, issue of the State JOURNAL. (Motion seconded and carried).

The President: The next order of business is the report of the Secretary.

**REPORT OF THE SECRETARY**

Members of the House of Delegates:—

Your Secretary reports the collection of the following sums for the balance of the year 1927, and the first four months of 1928, covering the year from May 1, 1927 to April 30, 1928. The first figure read being the amount collected from the various component Societies from May 1st to December 31st, and the second from January 1, to April 30, 1928.

Adams .....	\$ 8.00	\$ 544.00
Alexander .....	160.00	
Bond .....		
Boone .....	8.00	
Bureau .....	64.00	168.00
Carroll .....	156.00	144.00
Cass .....	16.00	72.00
Champaign .....	24.00	608.00
Chicago Medical Society .....	6,240.00	26,000.00
Christian .....	256.00	256.00
Crawford .....	16.00	144.00
Clark .....	40.00	40.00
Clay .....	56.00	8.00
Clinton .....	80.00	8.00
Coles-Cumberland .....		288.00
DeKalb .....	120.00	192.00
DeWitt .....	16.00	128.00
Douglas .....	120.00	136.00
Du Page .....	160.00	248.00
Edgar .....	136.00	
Edwards .....		32.00
Efingham .....	32.00	93.00

Fayette .....	\$ 40.00	\$ 16.00
Ford .....	80.00	32.00
Franklin .....	24.00	200.00
Fulton .....		360.00
Gallatin .....	8.00	48.00
Greene .....		120.00
Hancock .....	56.00	80.00
Hardin .....		
Henry .....	40.00	192.00
Henderson .....	40.00	
Iroquois .....	72.00	120.00
Jackson .....	40.00	112.00
Jasper .....	32.00	64.00
Jefferson-Hamilton .....	40.00	104.00
Jersey .....	56.00	
Jo Daviess .....	32.00	
Johnson .....	56.00	
Kane .....	320.00	152.00
Kankakee .....	80.00	320.00
Kendall .....		48.00
Knox .....	192.00	80.00
Lake .....	344.00	
La Salle .....	160.00	480.00
Lawrence .....	8.00	112.00
Lee .....	32.00	
Livingston .....	240.00	40.00
Logan .....	208.00	
McDonough .....	112.00	240.00
McHenry .....	160.00	184.00
McLean .....	160.00	416.00
Macon .....		560.00
Macoupin .....	212.00	112.00
Madison .....	32.00	592.00
Marion .....	64.00	176.00
Massac .....	104.00	
Mason .....	104.00	
Menard .....	40.00	8.00
Mercer .....	2.00	88.00
Monroe .....	8.00	80.00
Montgomery .....	8.00	96.00
Moultrie .....		40.00
Morgan .....	272.00	812.00
Ogle .....	192.00	8.00
Peoria .....	488.00	826.00
Perry .....		136.00
Piatt .....	96.00	48.00
Pike .....	136.00	112.00
Pulaski .....	8.00	8.00
Randolph .....	32.00	144.00
Richland .....	88.00	96.00
Rock Island .....	56.00	424.00
St. Clair .....	16.00	928.00
Sangamon .....	56.00	816.00
Saline .....	157.00	8.00
Scott .....		32.00
Shelby .....	32.00	80.00
Schuyler .....		80.00
Stark .....	64.00	16.00
Stephenson .....	8.00	24.00
Tazewell .....	48.00	40.00
Union .....	16.00	160.00
Vermilion .....	440.00	520.00
Wabash .....	88.00	
Warren .....	8.00	128.00
Wayne .....	112.00	120.00
Washington .....	8.00	120.00
White .....		96.00
Whiteside .....	240.00	
Will-Grundy .....	112.00	360.00
Winnebago .....	222.00	776.00
Woodford .....	8.00	88.00
Williams .....	8.00	352.00
Exhibits .....	1,112.50	2,982.50
Subscriptions .....	147.50	54.70
	<hr/>	<hr/>
	\$15,185.00	\$44,276.20

The figures reported as May to December, when added to the receipts reported to the House of Delegates last year, covering the first four months of 1927 makes the total for the entire year of 1927,—

Receipts from County Societies .....	\$54,214.00
Subscriptions to Journal, etc. ....	202.00
Exhibits at Annual Meeting .....	1,920.00

Total collections by Secretary for 1927 ..\$56,336.00  
From May 1, 1927 to May 1, 1928, a total of 257 Vouchers were issued for the sum of \$69,580.00, these divided as follows:

General Expense .....	\$56,020.92
Medico-Legal Expense .....	7,920.60
Legislative Expense .....	5,638.48

Total.....\$69,580.00

Of the general expense, the sum of \$14,460.90 was spent for the printing of the Illinois Medical Journal during the year.

Members of the Society in good standing May 1, 1927 .....	7,247
Members dropped during the year, to May 1, 1928—	
By Death .....	99
Non-Payment and Removal from State .....	150

249 7,247

249

6,998

Members reinstated during year .....	64
New members received .....	411

Membership May 1, 1928 .....7,473

This shows a net gain of membership during the year of 226.

An audit of the Secretary's and Treasurer's reports and accounts was made for the year ending May 1, 1927, by Fred N. Setterdahl of Rock Island, and reported to the Council at the September, 1927 meeting. The audits verified the reports of the Secretary and Treasurer as read at the 1927 Annual Meeting at Moline, showing the same to be correct. The audit also covered the accounts of the Editor, Educational Committee, and the Medical History Committee, showing all to be correct.

Your Secretary is of the opinion that all deaths of members during the year are not reported, and that the number of deaths reported here are not accurate, but they are taken from the reports sent us by the various component Society Secretaries.

We have received a high degree of co-operation from the Component Society Secretaries during the past year and wish to take this opportunity to thank them collectively for their assistance. Unfortunately we still have a few Societies whose reports and remittances are nearly a year late and we hope that this will be improved the coming year.

An increasing problem is the case of the small Societies whose membership is so small that it is almost impossible to get enough men together to

hold a meeting. It is our opinion that these Societies should continue to retain their identity as an organization and the members when possible should attend the meetings of larger adjoining Societies. This problem like that of the increasing scarcity of physicians in rural communities is an economic problem which is worthy of serious consideration.

During the past year we have lost one of our highly efficient Secretaries who was in that office for nearly thirty years; a past President of the Illinois State Medical Society who was known to the majority of our members. Dr. E. W. Fiegenbaum through his work and interest in the Society's welfare for many years will indeed be missed by all who knew him. May we all conduct ourselves in our Society work similar to this highly respected gentleman and increase the efficiency of the organization and its service to the citizens of Illinois.

Respectfully submitted,

HAROLD M. CAMP, *Secretary.*

Monmouth, Illinois.

(It was moved that the report be adopted. Motion seconded and carried.)

The President: We will now have the report of the Chairman of the Council.

#### REPORT OF THE CHAIRMAN OF THE COUNCIL

The Council reports having held seven meetings since the last session of the House of Delegates. Earnest endeavor has been made to fulfill the policies of this House. We are glad to feel that no apology is indicated for an act of any committee or agent and we submit each effort to the judgment of the House with the statement that we could do no better under the circumstances.

A proposal for budgeting the expenditures of the Society has been seriously considered for the first time. Until now, no changes have been inaugurated but it seems possible that a system of budgeting at least maximum departmental expenditures may presently be feasible.

The Council has encouraged public contact of the Society with reputable organizations in an effort at amplifying the social and community relations and responsibilities of our members, bearing in mind at the same time that organizations do have character and standing just as do individuals. We have endeavored to keep out of bad company. We hope that we have been guilty of no irreparable errors and that our friends among the organizations are those which are above reproach. That each of these friendly social contacts should see all things medical with our eyes has not been an expectation of the Council; but, that these organizations have seemed to turn to us for opinion or for advice or for information more regularly during the past year, has been a source of great satisfaction. In the society of organizations there is reason to believe that the Illinois State Medical Society is credited with integrity, tolerance and individuality: three characteristics which the Council believes to be desirable.



Since last report the several members of the Council and also its educational committee have assisted in general and by specific effort in the formation of local units of the Women's Auxiliary to the Illinois State Medical Society, as directed by the 1927 house of delegates. Fruition and reports of progress may be observed during the present meeting of the society. In this connection, it is fitting that the members of this House be made cognizant of an expense of both money and energy which was voluntarily assumed by Dr. and Mrs. G. Henry Mundt. These people are cited for Honorable Mention.

Within the past year the Council has concurred in an opinion and wish of the Treasurer in transferring the monies of the Society for keeping to the State Bank and Trust Company, of Evanston. That a portion of the monies on hand has been placed on time deposit at interest is reported not as an evidence of opulence but as an indication of sincere co-operation in economy by all agents of the Council; and also as one result of an especially fortunate year in the activities of the Medico-Legal Committee. This incident, falling together with an "off-year" of the legislative committee has operated to a financial ease greater than experience would lead us to hope for in 1929.

Your Council is highly appreciative of the fact that both editorial and secretarial service come to this society at a smaller net cost than is the case with any other medical society of comparable membership and activity. At the same time, both of these services are commended to this House as second to none in the United States.

For the new year, your Council bespeaks an even more active co-operation and personal interest among the secretaries of the several county societies, while recognizing that the co-operation of the past year has been keenly quick.

Your Council feels that a proper time has arrived for specific effort at regaining a lost influence over medical education, insofar as it applies to an Illinois activity.

Respectfully submitted,  
WILLIAM D. CHAPMAN, *Chairman.*

The President: Last year it was decided that the reports of the various Councilors be printed in a pre-meeting volume. That was done and

REPORT OF THE TREASURER  
Dr. J. A. Markley, Treasurer  
From May 28, 1927 to April 30, 1928.

	Total
May 28, 1927—Cash Balance.....	\$ 50,019.38
RECEIPTS—	
Received from H. M. Camp, Secy.....	60,161.20
Received from Journal.....	17,000.00
Received from Medical History.....	2,000.00
Interest Credited .....	620.72
Total .....	\$129,800.80
Less—Vouchers Cashd .....	64,458.47
April 30, 1928—Cash Balance on Hand.....	\$ 65,342.33

for that reason it will not be necessary to read the complete report.

We will now have the report of the Treasurer.

The ILLINOIS MEDICAL JOURNAL turned in from their advertising accounts during the year, the sum of \$17,000.00, which is greater than receipts of any previous year.

The Secretary: In explanation of the discrepancy between the report as read and the report as printed, I wish to state that during the year it was necessary to transfer funds from the Medico-Legal and Legislative Funds to the General Fund and these withdrawals were not mentioned by Dr. Markley. The report as printed gives the total withdrawals.

Dr. Nagel: I move that the report of the Treasurer be received as read. (Motion seconded and carried.)

The President: The next order of business is the report of the Councilors.

REPORT OF THE COUNCILORS

1. Dr. D. B. Penniman, Rockford, reported for the First District as follows:

Our county societies are doing better work this past year. Several of the societies have frequent meetings, others meet three and four times a year.

Some of our county societies are holding fellowship meetings, where the members meet at a hotel every week or every month. These luncheon gatherings are strong factors in harmony and fellowship and afford an opportunity of talking over the many economical problems that are being presented to the profession.

2. Dr. E. E. Perisho, Streator, reported for the Second District as follows:

The Second Councilor District consists of White-side, Lee, Bureau, La Salle, Livingston, Woodford, Marshall and Putnam counties, a total of eight counties. Marshall and Putnam counties are both small rural counties with only a few scattered physicians in each county making it impossible for them to keep up a county organization. They have tried on several occasions to organize both counties into one society. But it was never successful owing to both counties being small with only one to three physicians in one town. All the physicians of both of these counties are now members of their neighboring count-

	General	Medico-Legal Defense	Legislative	Savings Account
May 28, 1927—Cash Balance.....	\$15,172.92	\$11,419.81	\$ 8,426.65	\$16,000.00
RECEIPTS—				
Received from H. M. Camp, Secy.....	32,627.40	16,518.80	11,015.00	.....
Received from Journal.....	17,000.00	.....	.....	.....
Received from Medical History.....	2,000.00	.....	.....	.....
Interest Credited .....	319.10	.....	.....	301.12
Total .....	\$67,119.42	\$27,938.61	\$19,441.65	\$15,301.12
Less—Vouchers Cashd .....	52,689.39	7,930.60	8,338.48	.....
April 30, 1928—Cash Balance on Hand.....	\$14,430.03	\$20,008.01	\$15,603.19	\$15,801.12



ies, most of them are members of either Peoria or La Salle counties.

The remaining six counties, Lee, Whiteside, Bureau, La Salle, Livingston and Woodford are well organized, holding regular meetings with very good interest in all the counties. During the past year I have visited these counties and kept in personal contact with their officers keeping them well informed as to all new developments in our Medical organization, Legislature, Political organizations, etc. I have assisted the secretaries in arranging their programs, recommended speakers, etc.

All these counties are well organized and much interested in medical legislative work with a special committeeman in each county. As a result of this work we are proud of the records of senators and representatives of the second district, with the exception of about two men, all the lawmakers of the second district have protected the interest of the Medical Society. In return for this work we have all assisted these men in their political campaigns.

I have attended every meeting of the Council and assisted our Lay Education and Scientific Program Committee in arranging for speakers to both Medical and Lay audiences.

I have exhibited films on the preparation and use of vaccines and addressed several high schools and grade schools, also parent-teachers' meetings, Women's Clubs, etc., on the subject of Pre-School Examinations, Preventive Medicine, etc.

We have had several mal-practice threats or suits filed in our district during the past year, where I have rendered all the assistance I could to both the doctor and our Medical Legal Committee with very satisfactory results in every case.

In conclusion I am proud to report that almost every active physician in the Second District is a member of our County and State Societies. Each county is well organized and every member is active and interested in Medical organization.

3. *Dr. S. J. McNeill*, Chicago, reported for the Third District as follows:

The following report is submitted by the Councilor of the Third District of the Illinois State Medical Society embodying the Counties of DuPage, Kendall, Will, Grundy, Lake, Kankakee and Cook.

*Cook County—Chicago Medical Society*—Isaac A. Abt, President; James H. Hutton, Secretary; Society meets once a week, Wednesdays; Have held 28 scientific meetings; no social meetings. Council meets 2nd Tuesday; Members in good standing 4,224.

*Kendall County*—H. E. Freeman, President, Newark; F. R. Frazier, Secretary, Yorkville; Six members; Three delinquents; No meetings.

*Kankakee County*—J. H. Roth, President, Kankakee; H. E. Delavergne, Secretary, Kankakee; Ten meetings; Nine scientific; One social; Forty-five members; Members meet second Thursday; Papers read by Chicago men.

*DuPage County*—Richard Schiele, President, Glen Ellyn; Walter S. Bebb, Secretary-Treasurer, Hinsdale;

Nine scientific meetings; Forty-eight members; Meet third Thursday, dinner and meeting.

*Lake County*—J. A. Ross, President, Wauconda; M. D. Penny, Secretary, Libertyville; Nine scientific meetings; Banquet in April; Picnic in June; Forty-five members; Meet Second Wednesday evening.

*Will-Grundy County*—Fred A. Roberg, President, Joliet; P. A. Landman, Secretary, Joliet; Meet every Wednesday noon during the year, omitting July and August. Picnic in June; Sixty-five members; Always a speaker of note.

4. *Dr. W. D. Chapman*, Silvis, reported for the Fourth District as follows:

The year just ending has seen improvement in the fourth district in the matter of organization and influence. Some ten years of over-confident self-expression by various volunteer health organizations has led many of their lay-promoters to begin to recognize limitations. At the same time the past year has seen a crystallization of opinion among our county society memberships which has resulted in a much better expression and influence. Volunteer health workers are, as a result, calling more and more frequently upon local medical societies for advice and counsel; a very wholesome situation.

In one of our county societies sentiment of the members had crystallized to a point where it became possible to draw a set of regulations to which a strongly entrenched lay organization must submit. This was in an outstanding case in which the lay group had practiced medicine for years upon the licenses of five or six of our members. To the credit of the profession it is recited that none of these members showed any disposition to sacrifice his county society membership when the point at issue came to a showdown. Instances of this sort make for better understanding among our members and greatly increase professional prestige while, at the same time, they operate greatly to the good of the community health.

Two societies of the district have drawn heavily upon the facilities developed by the scientific service committee; one, in particular, having gone so far as to schedule a post-graduate review; an experiment which has proven more popular than was considered possible. The plan has shown itself worthy of endorsement.

Your councilor has visited no county society without invitation, for the reason that unasked advice so frequently is futile. He has declined no invitation except in the event of an earlier engagement upon society work. From the counties not officially visited reports have been had from active members. The opinion is justified that none of our societies has lagged.

The District now boasts another of the tri-county affiliations, so that one-half of the district is now covered by this highly desirable group plan which has been made possible by improved transportation facilities.

One of our smaller societies has demonstrated to your councilor a keener interest in and a more universally intelligent understanding of present-time prob-

lems of medical distribution, economics, public ethics, and education than we have been able to gather from the transactions of some of the largest societies of the world. In considering the practical application of an art we should keep squarely in mind the postulate that multiplying both members of an equation by the same number does not change the value of the equation.

5. *Dr. S. E. Munson*, Springfield, reported for the Fifth District as follows:

The counties comprising the Fifth Councilor District are gradually increasing the number of their meetings throughout the year, and meeting their responsibilities in their contact with the various civic activities, in the community.

Much of the interest manifested in the work of the County Societies has been brought about by the stimulation of the Educational Committee, and the splendid co-operation of the Scientific Service Committee, through *Dr. Hutton*, in supplying speakers for their programs.

The value of being a member of a county medical society, as considered in all its angles, is becoming more appreciated than ever before. There seems to be a feeling among the profession today that, like every other activity in life, the more individual effort that each member puts into their county society, the more progressive and capable he will become to his patients, and the more helpful he will find the society.

If a proper understanding of these various agencies and activities can be made a part of the work of our County Medical Societies, no doubt we will more nearly approach that goal—the prevention of disease.

*DeWitt County*—Officers: *Dr. George S. Edmonson*, President, Clinton; *Dr. W. R. Marshall*, Secretary, Clinton.

Present Membership .....	16
Number lost during the year .....	1
Number gained during the year.....	0

Much of the success of this Society is due to continuing their secretary from year to year. *Dr. Marshall* has proven himself one of the most capable secretaries in the district. *Dr. George S. Edmonson* was reelected as president, which indicates that he has given much individual time and effort to the success of the Society the past year.

This Society has had most excellent programs, partly by their own members and the remainder through the Speaker's Bureau. They have greatly increased their efficiency during the year in comprehending, arranging their responsibilities to the community, and in fostering a spirit of better co-operation among the members. From a Society that formerly met only once a year to elect officers, all this progress has been accomplished in the last three years.

*Ford County*—Officers: *Dr. F. E. Briggs*, President, Ludlow; *Dr. H. W. Trigger*, Secretary, Loda.

Present Membership .....	16
Number lost during the year .....	2
Number gained during the year .....	2

At the regular May meeting, the Councilor (*Dr.*

*Munson*) was present, and spoke on "A Review of the Program of the American College of Physicians." *Dr. Don W. Deal*, of Springfield, gave a talk on "Indications for Abdominal Operations." The meeting was held at Paxton.

This Society has held more meetings the past year than for any time previous, with better attendance of its members and greater interest and effort of its officers. At the suggestion of the Councilor last year, this Society has had an interchange of programs with *Iroquois County*, which seems well worth continuing each year.

*Iroquois County*—Officers: *Dr. J. L. Shawl*, President, Onarga; *Dr. C. H. Dowsett*, Secretary, Watseka.

Present Membership .....	19
Number lost during the year .....	1
Number gained during the year .....	0

Programs have been held regularly each month, throughout the year. One of the meetings that proved more interesting than usual was devoted to the physical examination of the members. This Society seems to be prospering by following the tried rule of finding a good secretary and re-electing him each year. They have also tried the plan of interchange of programs with their neighbor, *Ford County*, which the secretary reports was very satisfactory.

*Mason County*—Officers: *Dr. C. W. Cargill*, President, Mason City; *Dr. Charles H. Stubenrauch*, Secretary, Havana.

Present Membership .....	13
Number lost during year .....	0
Number gained during the year .....	0

This Society has had very great difficulty in arranging programs because the hard road is not yet completed between Havana and Mason City, and this condition the past winter has been worse than for many years.

The Secretary, *Dr. Wm. R. Grant*, of Easton, unfortunately has been sick throughout the winter, and at the April meeting *Dr. Charles H. Stubenrauch*, of Havana, was elected in his place. *Dr. Grant* was always one of the most active members in the county, and his sickness was a loss to their activities the past year.

At a meeting held in Havana, in July, the President of the State Society, *Dr. G. Henry Mundt*, Councilor *Dr. S. E. Munson*, and *Dr. Don W. Deal*, of Springfield, were guests of the Society, and enjoyed the hospitality of *Dr. Hanson* at his cottage on Quiver Beach. Dinner was furnished and served by the wives of the Doctors of the Society.

The May meeting was held at Mason City, May 3, with members from *Menard County*, invited. With the completion of the new road between Havana and Mason City, this Society promises to become more active, with regular monthly meetings. Already they have met their obligations in the various activities sponsored by the Woman's Club and Parent-Teachers' Association.

*Menard County*—Officers: *Dr. Irving Newcomer*,



President, Petersburg; Dr. R. E. Valentine, Secretary, Tallula.

Present Membership .....	6
Number lost during the year .....	0
Number gained during the year .....	0

This Society continues to be the least active of all the counties in the Fifth District. The membership being very small and scattered, it has been difficult to secure regular meetings. However, with the co-operation of the Sangamon County Medical Society, there is promise of better work the coming year.

*Logan County*—Officers: Dr. B. M. Barringer, President, Emden; Dr. E. C. Gaffney, Secretary, Lincoln.

Present Membership .....	23
Number lost during the year.....	6
Number gained during the year .....	0

This Society has been more active the past year, and has had regular monthly meetings, with splendid programs with the assistance of speakers from the Scientific Service Committee.

The Society celebrated the anniversary of fifty years in the practice of medicine of Dr. Charles Rembe, on March 23, at his home. Dr. and Mrs. Rembe are typical examples of cordiality and old-time hospitality. This was certainly a fitting occasion for the manifestation of the esteem and high regard that the members of the Logan County Medical Society have for one who is really the dean of their Society.

*Tazewell County*—Officers: Dr. C. F. Grimmer, President, Pekin; Dr. N. D. Crawford, Secretary, South Pekin.

Present Membership .....	21
Number lost during the year .....	0
Number gained during the year .....	3

Each year it has seemed impossible to secure the co-operation of the members of this Society in having meetings with any regularity. Dr. Crawford, who has been the secretary for the last two years, and re-elected for the coming year, had the splendid ability of Dr. Samuel T. Glasford as President last year, who succeeded in having meetings with fair regularity the past winter—the first time in many years.

It is expected that the new president, Dr. Grimmer, will prove as aggressive as his predecessor, and arrange to have regular monthly meetings throughout the year. This Society is to be congratulated on its new road of activities.

*McLean County*—Officers: Dr. H. R. Watkins, President, Bloomington; Dr. Ralph P. Peairs, Secretary, Normal.

Present Membership .....	72
Number lost during the year .....	7
Number gained during the year .....	7

McLean County has come through with its usual activities, good programs, and constructive work in the community. There is some new work outlined in connection with the Department of Child Welfare

and Hygiene that is proposed in the work of this Society for the coming year.

Their program for the purpose of increasing the percentage of breast-fed babies, inaugurated by Dr. Frank Howard Richardson, of New York City, was successfully carried through and the results have been most gratifying in McLean and adjacent counties.

One of the most widely attended meetings in the Fifth District last year was held in McLean County, at Bloomington, November 7. The dinner was given by the staff of St. Joseph's Hospital. Dr. William Seaman Bainbridge, of New York, who had recently returned from Europe, was the speaker of the evening. There was a large attendance and a fine dinner. The Doctor, who is always a charming and interesting speaker, spoke favorably of the changes that have occurred medically in Europe since the war, and gave a lecture on "Prognosis and Treatment of Cancer," illustrated by lantern slides.

*Sangamon County*—Officers: Dr. John R. Neal, President, Springfield; Dr. C. B. Stuart, Secretary, Springfield.

Present Membership .....	112
Number lost during the year .....	5
Number gained during the year .....	11

Sangamon County Medical Society carried on its regular monthly meetings last year, with good attendance and high grade programs. It has started the new year with entirely new officers, who seem to be very active.

The May meeting had a program by its own members, a symposium on "The Anemias." The subjects were presented by five of the younger members of the Society. This is a return to a former policy of the Society, by the new officers, to have the Society present a part of its own programs.

The Society entertained the district meeting held in Springfield, at the Abraham Lincoln Hotel, in October of last year.

In the recent smallpox outbreak in Springfield members of the Society vaccinated more than three thousand school children of the city, that were investigated by the school nurses and found unable to pay. Dr. H. H. Tuttle, City Superintendent of Health; Dr. John R. Neal, President of the Society; Dr. C. B. Stuart, Secretary, and the members, are to be congratulated on this splendid piece of work. Dr. Tuttle reports that over ninety per cent of the children in the schools have been vaccinated.

On account of the State Society meeting ten days earlier this year, and the resolution passed last year requiring the reports to be made ten days previous for publication, together with the rush of vaccination work in the office of your Councilor, it has been difficult to secure the entire data from the counties in this district. However, this has been included in the report for the ILLINOIS MEDICAL JOURNAL.

6. Dr. Charles D. Center, Quincy, reported for the Sixth District as follows:

During the past year your Councilor has spent the time largely in trying to sum up conditions in his district. There has been no attempt to visit each



county medical society for reasons which will shortly appear.

Within this district of eleven counties there are—supposedly—ten county societies; one county is very frank in admitting that it has no organization. Three counties have nominal organizations, the sort which meets from once a year to four times a year. One is as yet an unknown quantity to your Councilor, and five have at least average organizations doing good organizational and scientific work. The Councilor has visited three of the ten county societies, and also the county which has no society.

Still farther analyzing these component organizations it appears that the county with no organization has but nine practicing physicians within its borders, and it is doubtful if any three of these are on good personal terms with each other. In two other counties the paucity of medical men, and bad road conditions, with a lack of any town of sufficient size to form a nucleus, or central point, probably furnishes the reasons for indeterminate and infrequent meetings.

But above all these reasons there is one more potent still, and that is indifference on the part of the individual; when the president or secretary, or both, of a county society are so indifferent that the Councilor cannot even get a reply to his communications upon District or County conditions, there is but one reply—indifference. This may arise from several sources.

- (1). General Apathy.
- (2). Smug satisfaction with things as they are.
- (3). Lost hope of securing different conditions.
- (4). Ignorance of the help the State Society with all its ramifications can give to the individual member, and to the county society itself.
- (5). Dislike for the Councilor.

After going over these various conditions, and after watching the effect of the Councilor District Meetings, I am convinced that in a District largely rural in most of its counties, that the best local method is to depend more and more upon District Meetings; have them of an informal or round table variety, and have but few, if any high-brow papers. The Sixth District will have such a meeting June 20th.

Your Councilor has not been called upon to adjudicate any quarrels or disputes during the year.

It is possible that the membership has decreased in the Sixth District, largely for one reason. When the doctor in a small village, and particularly in an inland village with no railroad facilities, and no hard road passing through, when that doctor dies or moves to a larger place, that opening is rarely filled. This is a condition which is not new, but which is growing in intensity.

7. *Dr. I. H. Neece*, Decatur, reported for the Seventh District, as follows:

The affairs of the Seventh Councilor District in an organized way remains the same as last year.

Most of the counties are well organized and have regular meetings.

Several counties have availed themselves of the program furnished by the Scientific Service Committee.

We had one District meeting last October to which all the twelve counties were invited.

The meeting was well attended and was thoroughly worth while.

"The inter-county meeting idea" has been in operation again this year with mutually good results.

Most of the counties have been visited and the co-operation for the most part has been fine.

8. *Dr. Cleaves Bennett*, Champaign, reported for the Eighth District as follows:

A "Councilor's Meeting" was held at Marshall, Illinois, in Clark County, on October 11th. There were fifty men there from different parts of the district. Dr. G. Henry Mundt, President of the State Society, spoke on the various benefits of the State Medical organizations, and Dr. William H. Brown of Chicago spoke on the "Management of the Last Half of Pregnancy." Both talks were exceptionally good, thoroughly practical, and were very well received; and both were well discussed by several of those present. The entire meeting was excellently managed by the local medical society, and so far as I know was thoroughly satisfactory.

A meeting of the Douglas County Medical Society was held at the Douglas Hotel in Tuscola, Tuesday evening, April 24th. There are only nineteen physicians in the county, sixteen of whom belong to the society. Twelve of these men were present, and held an exceedingly interesting meeting. Dr. Slater of Hindsboro was the principal speaker.

I have had no reports of any damage suits or trouble in this district, and I believe the general society interest is increasing in the monthly and bi-monthly meetings which are held. The "free clinic" situation I believe is improving; and I am personally convinced that the continued hard work of the educational and scientific service committees is bringing results and is going to bring more.

9. *Dr. Andy Hall*, Mt. Vernon, reported for the Ninth District as follows:

The Ninth Councilor District is composed of fourteen counties lying in the southeastern part of Illinois. From the north to the south end of this district is approximately one hundred miles. From the west to the east is seventy-five miles. The counties in this district are Jefferson, Franklin, Williamson, Johnson, Massac, Pope, Saline, Hamilton, Wayne, Edwards, Wabash, White, Gallatin and Hardin.

There are thirteen organized societies in the district. Jefferson-Hamilton, Franklin and Williamson County Societies have monthly meetings with good attendance and scientific programs that will compare favorably with that of any other component society in the state. Saline County has a large number of physicians within its borders and most of them are members of the society, yet I regret to say that we have been unable to secure the cooperation of several of the good physicians living in that county. However, the Saline County Society has had a number of meetings during the past year that were of the highest order. Wabash County, Gallatin County and Wayne County have a few good meetings each year that are well attended.

The other counties in this district where the membership is small, meet only occasionally. The physicians in these counties oftentimes attend society meetings in the adjoining counties.

Most of the eligible physicians in the Ninth District are members of the Medical Society. In the Ninth District the physicians are ethical and the standard of professional skill will compare very favorably with that of any other district in the State. So far as I know, not a malpractice suit is pending against any physician in the Ninth District.

10. *Dr. J. S. Templeton*, Pinckneyville, reported for the Tenth District as follows:

We have had as much progressive activity in the tenth district the past year as there ever was in the counties composing it. The larger societies have been unusually active. The district is favored by having the St. Clair County Society within its bounds. This organization furnished nine good programs last year. Dr. Bloodgood of Baltimore, Maryland, Dr. Mather Pfeifferberger of Alton, Illinois, Dr. H. M. Connor of Rochester, Minnesota, Dr. J. H. Kellogg of Battle Creek, Michigan, Dr. Harry Hoffman of Rush Medical School, Dr. V. P. Blair of St. Louis, Missouri, and Dr. McKim Marriott of St. Louis, were prominent speakers from other societies. Also a number of local men filled places on their programs.

In March a special meeting was held celebrating the fiftieth anniversary of Dr. J. L. Wiggins of East St. Louis entry into medical practice. Many from a distance attended and the evening was one of profit as well as pleasure.

Dr. R. L. Campbell of their number spent the summer abroad and on his return gave an interesting report of his trip.

St. Clair is one of the few down state societies having a branch organization. This is located at Belleville, the county seat of St. Clair County. Dr. G. C. Otrich seems to be its permanent Secretary and it is known without further comment that it is an active organization.

The Jackson County Society, the second largest of the district, have monthly meetings alternating between Murphysboro and Carbondale. They use both local and outside talent. The Southern Illinois Medical held its meeting at Murphysboro last November and was well entertained. The session was one of the best ever enjoyed by the profession of Southern Illinois.

The Alexander County Society held eight meetings last year. Three were dismissed during the hot summer months and one prevented by the well-remembered March flood. They had about fifty per cent attendance record which is about an average for Southern Illinois. The members supplied the talent for seven meetings having outside speaker for only one. Their outstanding meeting of the year was the one celebrating Dr. W. F. Grinstead's fiftieth anniversary of his medical practice. This was attended by the President of our State Society, the President of Southern Illinois Society and many other notables from Chicago, St. Louis and the smaller cities.

The Union County Society is undoubtedly one of

the best of its size in the state. They had one program the past year supplied by the Educational Committee when Drs. Don Deal of Springfield and A. D. Rives of East St. Louis were the speakers. Some of the other programs were supplied by local men and some by men from neighboring counties. No meetings were held during July and August.

Of the other counties of the Tenth District little can be said. An organization is maintained in each, and men faithful to their patrons, securing the benefits of medical organization are to be found, but few are boosting for their County or State Society.

(It was moved that the reports of the Councilors be accepted. Motion seconded and carried.)

THE PRESIDENT: We will now have the Committee Reports.

#### REPORT OF THE LEGISLATIVE COMMITTEE

Your legislative Committee begs leave to report that at the last session of the Legislature, out of the 1,370 bills that were introduced, 122 of them engaged the attention of the Illinois State Medical Society.

There were almost fifty pernicious bills designed to lower the educational requirements of those who desire a license to treat human ailment in the State of Illinois. The following drugless groups were thus represented: osteopaths, chiropractors, naprapaths, naturopaths, physiotherapists, masseurs, and sanologists, and to this group must be added the homeopaths, who also endeavored to get a separate board for their particular therapy.

In the two previous sessions of the Legislature the chiropractors were the best organized—financially, at least—and were able to make a very much better showing than the rest of the cults. However, the first place was won during the last session by the osteopaths, the chiropractors having lost very badly due to the fact that they spent too much money in 1925 and were unable to replenish their legislative treasury, for apparently the price had advanced in certain quarters in the 1927 session.

The osteopaths, however, fought a very much better battle than previously, and at one time their legislative committee claimed a complete victory. Of course, it is now history to know that they were badly defeated, as well as all the other cults that offered bills during the 1927 session.

Your Legislative Committee pursued the same tactics that were adopted by the Council a number of years ago, that of having the state divided into legislative districts, with each Councilor in charge of a certain number. This, of course, makes an overlapping of legislative districts in our Councilor districts, but, with few exceptions, there was no difficulty.

Your Legislative Committee has the greatest praise for all members of the Council, and especially for those members in Cook County, where obviously the problem is more perplexing on account of the congestion in the different legislative districts.

A bulletin was sent out weekly giving data on the legislative situation during the entire session. This service, of course, was free to all interested doctors



who were members of the Society, and our mailing list approximates about one thousand at this time.

By this method we were able to keep in actual contact with doctors throughout the state who were interested in medical legislation, and the results obtained by the Illinois State Medical Society's legislative committee were largely due to the work of the key-men in all sections of the state, who after receiving information through our bulletin service, as well as from the many hundreds of personal letters written into certain districts, advised and educated the legislators at the week-ends.

During the recent primaries the Chairman of your Committee received requests from thirty-two members of the Legislature for aid in their particular districts. It was possible to endorse the legislative records of twenty-eight who had earnestly fought for high standards along legislative lines regarding the public health.

It is not the attitude of the Illinois State Medical Society, or its Legislative Committee, to attempt to select the candidates in any particular district. However, it is no more than fair to endorse the records of those who have, in an outstanding way, approved of the legislative program of our Society.

Incidentally, we might say that twenty-four out of the twenty-eight so endorsed were nominated, and stand an excellent chance for election this fall. We have received many letters thanking us for the aid that we have been able to render them.

The Committee has also aided the American Medical Association in its legislative program at Washington regarding such bills as were approved by the Council of the Illinois State Medical Society.

Since the last annual meeting the Chairman of the Legislative Committee has attended twenty-six medical meetings, and has made eighteen addresses along legislative lines. The finest spirit of co-operation was evidenced by all districts, which made possible the success attained in the last session of the General Assembly.

In congratulating the hundreds of physicians who aided in the legislative program, it is to be recalled that due to their excellent work it was unnecessary for a single physician to leave his home and come to Springfield during the 1927 session of the Legislature.

Respectfully submitted,

LEGISLATIVE COMMITTEE,

CHAS. E. HUMISTON,

EDWARD BOWE,

JOHN R. NEAL, *Chairman*.

Dr. Neal: I would like to give you one thought that is not contained in the report. We heard a great deal tonight about lay dictation in medical matters. I had the pleasure this morning of talking a half hour to the Secretaries' Conference on this subject.

I merely mentioned that in the states where physicians have taken little or no interest in political matters they have found themselves confronted with a multiplicity of licensing

boards, as a result of this apathy, and in seeking some relief quite a number of these states have adopted what is termed the Basic Science Law.

I sincerely trust that every physician in the Illinois State Medical Society will carefully acquaint himself with the dangers of this piece of legislation, because in the opinion of your Legislative Committee it is a thing that Illinois should fight and fight hard. We have a basic science law here in Illinois, although, of course, we do not term it that, nor is it administered as the basic science law in other states, because apparently one of the very basic principles of that law is having an entire lay board give the examinations in anatomy, physiology, pathology, etc.

We believe that this is a step in the wrong direction. We do not believe that it is necessary to turn to laymen to direct the secretarial affairs of this Society, and if doctors are unable to officer their own organizations, and are unable to see the advantage of giving examinations to those who profess the proper qualifications to treat the sick, then I believe we should disorganize.

We are not concerned as to what goes on in other states, although it is reported to me that in an adjacent state the physicians have suddenly found themselves in the uncomfortable position of discovering some five or six laws which have been passed by the Legislature of which they had no knowledge whatsoever, which, of course, was due entirely to a lack of supervision by the officers of their state association.

The Council of the Illinois State Medical Society takes a very active interest in the legislative situation, and instructs your Legislative Committee to make frequent reports during the session so that they may be well informed as to every bill which has any bearing upon the public health. In the last session of the Illinois State Legislature there were nearly 1,400 bills presented, and it was the duty of the officers of your Society to be thoroughly conversant with practically every measure, because many of them, even though the title does not so indicate, had something to do with the public health and the practice of medicine. This is particularly true regarding compensation laws, school laws, corporation laws, etc.

So, our position is really one entirely on the



defensive, and had the doctors in the adjacent state just mentioned, been more alert at the time it was possible to make proper protest, in all probability they would not have found themselves with laws on the statutes which are unnecessary. In the military game it is said that it is honorable to be defeated, but a disgrace to be surprised.

I firmly believe that all medical education in Illinois should be administered by physicians and that all licensing regarding the treatment of the sick should be conducted by physicians. If this plan is followed Illinois will have no need for the so-called Basic Science Law.

#### REPORT OF PUBLIC POLICY COMMITTEE

Seventy-eight years ago the Illinois State Medical Society was founded for the purpose of providing an organization that would supplement the medical schools in the preservation of current knowledge of the medical sciences, and encourage research that would insure to the public greater protection against illness, and better methods of combating illness when it occurs.

#### ABUSE OF MEDICAL CHARITIES

Seventy-eight years ago the only economic problems that faced the medical profession were the collection of bills for services rendered to patients, and competition of the cults, whatever they might have been (for the cults, we have always with us). Then, as now, a certain per cent of the population relied upon patent medicines as the first line of defense to prevent or cure illness.

The doctor of that day gave his services to those who were unable to pay, and considered his ministrations a duty to the helpless, and an advertising asset. The neighbors did the nursing and supplied necessary food. As the population increased, and the science of medicine developed, it became necessary to build hospitals, supported by taxation, for the care of those sick who had no financial means.

The physicians of that day felt it their duty to give their services free to the inmates of those institutions. They soon discovered that the public regarded them as greatly superior in knowledge and ability, to the medical brethren of the community who were not connected with the charity hospitals. With this discovery, the abuse of medical charities began. The abuse of medical charities is now complicated by the entry of medical departments of state and endowed universities, into the practice of medicine. Some way must be found that will relieve the universities from the necessity of obtaining financial support from pay patients.

A long dissertation on these abuses, and the injury they have wrought to the medical profession and to the public, would be out of place in this report.

#### AN EXECUTIVE SECRETARY

The time has come when the medical profession must realize that present conditions cannot be improved by depending upon lay organizations to understand the

economic faults of the system, or sympathize with the doctor because of diminishing financial rewards. The charity problem must be solved by organized medicine, and not by organized charities.

Organized medicine cannot hope to do this work if it has to depend on the part-time efforts of its officials. After years of admonition by successive secretaries, who saw the need of a business manager, the Council of the Chicago Medical Society finally authorized the employment of an executive secretary. If such an officer is a necessity, because of the increasing business and demands of the Chicago Medical Society; and its duty as a contributing factor to the welfare of the City and the County of Cook, how much greater is the necessity for an executive secretary for the Illinois State Medical Society; of which the Chicago Medical Society is only a part. The Public Policy Committee is pleased to call your attention to this need, and requests that you give the matter your earnest consideration.

#### ENDOWMENT FUND

When the State Society met at Quincy in 1925, the Public Policy Committee made its first recommendation, that steps be taken to raise an endowment fund to help support the activities of the State Society, especially those of the Education Committee. No action was taken by the House of Delegates upon that recommendation.

In 1926, at the meeting held at Champaign, the matter was again submitted to the House of Delegates, and largely as a result of the belief of its importance by Doctor Krafft, the President of the Society, the recommendation was adopted by the House of Delegates, and a resolution passed authorizing the State Society to raise such a fund. Two years have elapsed, and no effort has been made to make that resolution effective. Now is the time to provide in this manner, for the carrying on of future activities, whose financial demands will be far in excess of the money received from membership dues.

#### CHANGE OF MEETING TIME OF HOUSE OF DELEGATES

In 1927, at the Moline meeting, the Public Policy Committee called the attention of the House of Delegates to the fact that business of the Society, and the economic needs of the medical profession had assumed such proportions that the long-established custom of having the first meeting of the House of Delegates late in the evening of the first day's session, was an unseemly and unsuitable time for dignified and thoughtful consideration of the many problems needing solution. Your committee again recommends that this meeting be changed from an evening to a morning session, and that an entire forenoon be devoted to the study and discussion of our economic needs.

EMMET KEATING, *Chairman.*

GEORGE MICHELL.

WARREN JORNSEN.

#### REPORT OF THE MEDICO-LEGAL COMMITTEE

During the past twelve months your Committee has had some serious cases to handle, and has pretty gen-

erally had the co-operation of members of the Society. A number of unusually difficult and rather expensive cases have been tried, but we have had less than the usual number of cases tried, so the expense has been about normal.

We have found that there is an unfortunate tendency to get these cases into the newspapers at the time they are brought, and as the suits are usually brought for highly excessive amounts the appearance of such reports is more damaging to the physician than the trial and its outcome. A large proportion of the malpractice suits that are brought never do go to trial, or if tried result favorably to the defendant, so the greater part of the embarrassment to the physician is the notoriety he gets when the suit is brought.

It seems to our Committee that most of the claims made and suits that are brought, are due to thoughtless acts or statements by the second or third consultant. He has dropped some word or given some indication of criticism, usually without thought of instigating trouble, and we find in most cases it is something that he would not think of stating in open court. In view of this your Committee asks that the members of the Society be more careful in their advice to patients who have been previously attended by some other physician, for very little will start some patients hunting trouble, and, as above stated, the greater part of the embarrassment to the doctor who is sued comes from the notoriety he gets when the suits are brought.

Another point in our experience on which we think our advice may be of value or interest, is that a doctor who has been sued does not get into trouble because of having had x-rays made. He can easily get into serious trouble through *failing* to take pictures, and for the protection of the patient, if there is an injury, it is advisable to take some pictures, for they may be extremely helpful to your patient and yourself.

Respectfully submitted,

MEDICO-LEGAL COMMITTEE,

By J. R. BALLINGER, M. D., *Chairman*.

#### REPORT OF EDUCATIONAL COMMITTEE

The Educational Committee of the Illinois State Medical Society functions as a medium between the medical profession of the state and the laity as individuals and groups.

The Educational Committee believes that while "you can't stop people from thinking, you can start them" thinking in the right direction. The experimental stage in education of the public in regard to the real value of good health has passed. Illinois was one of the first states where the Medical Society saw the need of proper education and immediately organized a Committee to be more or less responsible for the giving out of information relative to health.

It is evident that the public appreciates the fact that the medical profession is willing to give them correct information, and as a result there is today more interest abroad concerning the periodic health examination, the pre-school child examination, and preventive measures, than has ever existed before. While there has been no way to check up the number of periodic

health examinations which have been made because of the interest aroused by speakers from the Educational Committee, people are "thinking" at least about having examinations. In every talk made by a representative of the Committee, the importance of the periodic health examination has been stressed.

The pre-school child examination has been given its share of emphasis. It is interesting to note that in a good many cases the public has frankly confessed to its dislike of the grouping of children for physical examinations and has expressed its desire to have such examinations and tests made by the family physician in his private office.

A lay organization which for several years has asked the assistance of physicians for making examinations of more or less large groups of girls, has now decided that it is neither fair to the individual doctors nor to the individual girls and their families to ask that these examinations be given free of charge, except where such procedure is warranted. This is a beginning and it will be interesting to see what other organizations will follow this policy. It has taken time for the idea to work out, but the public is beginning to see the advantage of working with the doctors in making plans and forming policies regarding health matters.

During the past year there has been a friendly feeling existing between the Illinois State Medical Society and other organizations, such as the Illinois State Dental Society, the Illinois Federation of Women's Clubs, the Parent-Teacher Associations, and the State Department of Health through the Child Hygiene Division.

The Educational Committee was asked to revise certain literature which is used by the Child Hygiene Division. The members of the Committee have been consulted in medical problems which have come up and a very satisfactory understanding exists. A plan has been approved for the trying out of a health advisory committee in several counties of the state. This advisory committee will be composed of representatives of the medical and dental professions and certain lay groups. This suggested plan may prove to be a working basis for other counties.

The service given by the Educational Committee to the public has been varied and all requests which have come in have been filled with at least some degree of success.

A service made possible by the splendid co-operation of physicians of Illinois is that of the Speakers' Bureau. This department of the educational program makes it possible for all kinds of lay groups to be assured of first class speakers on health subjects. Women's clubs, men's clubs, churches, industrial corporations, Parent-Teacher associations, schools, colleges, have had programs arranged through the Educational Office. It is impossible to say just how many persons have been reached during the last twelve months in the 640 meetings covered, but it is a safe estimate that 175,000 have heard at least one definite statement regarding the value of good health.

The physicians have been most generous in giving time to this important work and the results have been



gratifying as shown by some of the reports which have come to the office. The president of a college writes, "We were greatly delighted and benefited by the address." Another letter comes following a health talk given by a physician before a group of several hundred high school students, "Dr. A. surely was an able man, his wonderfully pleasant personality won for him the attention of the students that is hard to beat; they all say he was one of the best men they have heard at the school." After a health talk given in one of the factories of Chicago, the man in charge said, "If all of your speakers are as good as Doctor B., we will sing your praises forever."

A request came from the personnel director of a factory employing a large number of women and girls. About 300 girls came to this meeting which was held at five o'clock, after the offices were closed, and so successfully did the physician present his subject of personal hygiene that the girls have requested other lectures in the fall.

This request came from a woman's club in central Illinois, "You arranged such an excellent program for us last year, and Doctor X. gave us such a splendid and interesting talk, that we are asking for assistance for our guest day program again this spring."

Last fall an attempt was made to have a health talk given at every county teachers' institute. The response was very good and thousands of teachers heard these lectures which were given by physicians. An endeavor was also made to secure several high schools for a series of health talks during the year. There was some response to this offer, but due to road conditions and other circumstances which came up, the series could not be given as planned. Several of the Chicago High Schools and some of the larger high schools throughout the state showed an interest in having at least one health talk given.

The Chicago Woman's Aid has asked the Committee to secure women physicians to give talks on hygiene to the girls of the Juvenile Detention Home next fall.

The Illinois State Medical Society was represented on the program of the annual clinic of the Chicago Dental Society last January. Two physicians were scheduled, one speaking on "The Royal Road to Health," dealing primarily with the importance of the periodic health examination; the other on "The Relation of the Dentist to the Obstetrician," a subject which was requested by the dentists.

It is evident through the number of calls which come that lay organizations are beginning to realize that if they want a health talk which they can depend on, and a speaker who knows how to present his subject in a forceful, convincing manner, the request should be made through the Educational Committee.

The Committee has very definite policies regarding the talks made by physicians. The speakers understand that personal advertising must be avoided, and that treatment is not to be discussed. Whenever it is possible the speakers are announced as coming through the courtesy of the Educational Committee of the Illinois State Medical Society. Physicians are always requested to fill appointments outside their own counties

and the Committee assumes the expense of their travel and entertainment.

Eight thousand five hundred articles were released to newspapers during the year. The majority of these articles were health notes used one or more times a week by newspapers over the signature of the local county medical society. When epidemics have occurred, suitable educational articles have been sent to editors. Items have been sent to newspapers about special meetings sponsored by county medical societies. The Chicago newspapers have received each week material pertaining to the Chicago Medical Society meetings. All articles appearing on health subjects are checked by each member of the Committee before they are released for publication.

The chief difficulty with the press service is to secure and hold the interest of the local editors. The service has only been given to the counties where the medical society requested it and after they had made satisfactory arrangements with the newspapers. There are some drawbacks to this method, for it is impossible for the office of the Committee to know just how the material has been used unless the local physicians have been willing to take the time to keep tab on the thing. It may be necessary to work out a plan more satisfactory to both the profession and the newspaper editors. There is no doubt but what people read the material and if the articles are not supplied by the Educational Committee, they will be secured through some other source.

Physicians have also been ready to assist in any radio talks which could be arranged in Chicago stations. The Chicago Daily Tribune has given a ten-minute period each week over station WGN. In addition to this weekly feature, interesting talks have been given over stations WLS, owned and operated by Sears, Roebuck, WEBH and WJJD, owned and operated by the Herald and Examiner. The talks are written by the physicians asked to speak over the radio and are approved by the Committee before they are broadcast. The talks have been interesting enough to hold the attention of people in all parts of Illinois and surrounding states. Subjects were selected which were appropriate for the months of the year. During the last twelve months 96 radio talks were given, copies of which are on file in the office of the Committee.

Posters have been collected from many agencies in the United States and have been mounted attractively to appeal especially to school children. The following was noted in a newspaper clipping received shortly after the posters were exhibited in an Illinois city: "These posters were placed in all the upstairs class rooms and in the assembly of the high school. The high school students examined them. These posters illustrated some very necessary things, such as sleep with windows open, drink pure water and milk, eat green vegetables and fresh fruits, keep a good posture, and take care of your feet. One poster gave the pictures of some very noted medical men. These posters furnished theme work for all of the English classes." Twenty-five poster exhibits were sent out.

Sixty-five Health films were ordered by the Com-



mittee from the State Department of Health, the University of Wisconsin, and other sources for schools and clubs. The Committee does not assume any responsibility for posters, films, and general health educational material secured from any source aside from the Illinois State Medical Society.

Assistance has been given whenever possible to the Woman's Auxiliary of the Illinois State Medical Society. With the completion of this organization in every county, there will be many more calls made upon the committee for speakers and general educational material. The physician's wives will no doubt make sure that when health speakers are to appear on their club programs these will be secured through the Speakers' Bureau of the Educational Committee. The Auxiliary can be of great assistance in securing the interest and co-operation of club women in health activities. The Educational Committee is in a position to assist in the carrying out of these activities as far as is consistent with its policies and those of the State Society.

The Committee gave assistance to many counties during Health Week as proclaimed by the Governor. Speakers were sent out, health education articles were released to all newspapers. Twenty-four talks have been arranged for groups of mothers during National Baby Week.

A questionnaire was sent out to the state universities pertaining to health service offered the students. The replies have been tabulated and make a very interesting and significant report.

A questionnaire was also sent out to schools and industries regarding visual and auditory surveys. These replies will be incorporated in an article by one of the Chicago physicians.

Every county in the state of Illinois has been given one service by the Educational Committee. Some counties have made considerable use of the activities mentioned above, while others have shown less interest. The office of the Committee will gladly assist any county whenever possible. The Committee in no way dictates policies concerning health activities and procedure in the individual counties. Help has been given to several other state societies who are just now establishing Educational Committees.

The members of the Illinois State Medical Society will be glad to know that the books of the Committee have been kept strictly up to date, that a balance is kept in the bank, and that the expenses are kept well within the appropriation granted by the Society.

Respectfully submitted,

R. R. FERGUSON, *Chairman*  
JEAN McARTHUR, *Secretary*.

#### REPORT OF SCIENTIFIC SERVICE COMMITTEE

May 1, 1927, to May 1, 1928

This committee was authorized by the Council at its meeting in September, 1926, to function as a sub-committee of the Educational Committee. Its function was to make available to County Societies scientific men and material whenever the Society wished it.

The first step was the collection of medical, surgical

and special subjects that were believed to be of a special interest to the average doctor, or that had to do with problems that brought the medical profession into close contact with the public and were most apt to place the profession in an unfavorable light in the public eye.

The next step was the formation of the speakers' bureau. An attempt was made to enlist the co-operation of able men all over the state so that any County Society could be supplied with a good speaker from some relatively nearby point.

On July 21, 1927, a meeting was held in Chicago attended by representatives of the various councilor districts with Dr. Whalen, Dr. Camp, Dr. Danforth, and Dr. Hillis, to organize obstetricians and obstetric material over the state and to stimulate the use of papers on various phases of obstetrics before County Medical Societies.

The profession have co-operated very splendidly in all of this work, teams have been organized from some of the medical schools to present an entire subject before a County Society. For example: on January 10, before the Rock Island County Society a team from Northwestern University, composed of Dr. Harry E. Mock, Dr. J. P. Simonds, and Dr. William R. Cubbins, presented a symposium which occupied the afternoon and evening. The talks were listed as follows:

Lecture I—Dr. W. R. Cubbins.

"Fractures Around the Knee-Joint."

(Lecture 40 minutes; general discussion 20 minutes).

Lecture II—Dr. J. P. Simonds.

"General Principles of the Pathology of Bone."

Brief review of the anatomy and physiology of bone.

Special features of bone structure which modify general pathologic processes occurring in bone.

Necrosis of bone. (Massive. Molecular.)

Rarefaction of bone. (Absorption of bone.)

Condensation of bone.

Disturbances of ossification. Halisteresis.

Lecture III—Dr. Harry E. Mock.

"General Principles of Treatment of Joints Following Trauma."

Lecture IV—Dr. J. P. Simonds.

"Application of the General Principles of the Pathology of Bone to Special Diseases of Bone."

Infections of bone.

Acute suppurative inflammation. (Acute osteomyelitis.)

Chronic suppurative inflammation of bone (Chronic osteomyelitis.)

Tuberculosis of bone.

Syphilis of bone.

Metabolic disturbances of bone.

Rickets.

Osteomalacia.

Rarefying osteitis.

Condensing osteitis.

Round table discussion I—Dr. W. R. Cubbins.

"Treatment of Fractures."

Round table discussion II—Dr. Harry E. Mock.  
 "Cases of Traumatic Surgery."

On March 13, the University of Illinois sent the same county a team composed of Dr. Adolph Hartung, Dr. Charles Spencer Williamson, Dr. R. H. Jaffee, Dr. C. A. Hedblom, and Dr. Dreyer. This meeting also occupied an afternoon and evening and the subjects of the various talks were as follows:

"The Roentgenological Diagnosis of Stomach and Duodenum."

"Diagnosis and Medical Treatment of Lesions of Stomach and Duodenum."

"Pathology of Lesions of Stomach and Duodenum."

"Surgical Treatment of Lesions of Stomach and Duodenum."

"Physiology of Stomach and Duodenum."

Loyola University is now in process of organizing a team for the same county for the latter part of May. The personnel and subjects of the various talks have not yet been determined.

Sixty-seven speakers have been supplied to forty-four County Society meetings within the past year.

The cost has been borne partly by the County Societies and partly by the Educational Committee. The total cost to the Committee has been \$729.19.

Respectfully submitted,

JAMES H. HUTTON, *Chairman.*

(It is moved that the Committee reports be accepted. Motion seconded and carried.)

The President: We will now have the report of the Editor.

#### REPORT OF THE EDITOR

To make the annual inventory incident upon a yearly report, may in some instances be an arduous task. To the editor of the ILLINOIS MEDICAL JOURNAL, however, this annual report cannot help but be pleasurable since each year shows a steady and prosperous increase in the scope, influence and prospects of what has become one of the largest and most effective of the medical journals. As the physicians of Illinois own the ILLINOIS MEDICAL JOURNAL, it is with satisfaction that the editor, viewing the records, points with pride to this vital possession of the profession.

Value of any periodical is adjudged by the content and purport of its editorial columns. The finest of advertising statements cannot atone for editorial weakness. But a journal that finds its policies adopted and emblazoned by an ever-widening circle of contemporaries must hug to its heart that its ideals and its policies are those of progress and of a nature that obviously answers the demands of the cries of the hour.

Time was never before in history when the opportunities of the medical profession rested quite so heavily upon its ethical disciples nor blazed forth such brilliant messages of promise. Out of the chaos of charlatanism in murderous competition with one of the three major professions of the world; out of the bondage of hampering lay-dictation and attempted practice of medicine; out of the burden of increased

and unjust taxation levied at each step of a threatened invasion of the socialization of the world's most enduring democracy through the humanities of the medical profession, there is being blazed a trail for the welfare of man and the perpetuity of civilization.

Gradually the medical profession is awakened to the need of organization, discipline and strategic attack as well as invulnerable defense to insidious movements that destroy that which they pretend to preserve. Of such cloth as this is woven the increasing dispositions to paternalism and to bureaucracy and centralization of medical control at political headquarters; attempted financial segregation through moneyed foundations and private endowments; practice of medicine through medical legislation fiat; unqualified admissions to license to practice and state pre-emption of professional privileges. Against all of these the ILLINOIS MEDICAL JOURNAL takes issue.

The ILLINOIS MEDICAL JOURNAL has rounded out twenty-nine years of existence. At no time during this period has the outlook been more diagnostic as to the economic contingencies of the profession, that while affecting vitally the physician's individuality, synchronously affect, the public welfare and the future of the profession. Years ago when the editor of this magazine began his crusades against the tendencies to those evils that have spread among us like a Mississippi flood there was a certain percentage of dissenters against the idea that any such menaces could ever sprout inch high from the ground. Among those were many who realize now that while it is better to begin at the beginning to stamp out a plague that it is better still to begin even ten years later than twenty years later.

While active opposition of the part of a large section of the profession to this practice of medicine by money, by lay people, by politicians and by socialistic theorists is becoming more general every day there are still far too many otherwise wide awake men sleeping at the post. To these the JOURNAL sounds the tocsin; forces that brought these woes upon medicine are as clever now as they were at the beginning, and while to a certain degree they are repulsed they are by no means routed. Nor will these evils be done away with until every man and woman holding reputably a license to practice medicine gets out and stands up for what is right.

The ballot remains the most effective weapon for snatching medical science from the hands of political abuse, well gloved by money for the socialization of the profession and nicely greased with the deceiving unguent of "federal aid" and "community welfare."

The editorial policy of the ILLINOIS MEDICAL JOURNAL has busied itself with comment upon the economic tangent in the life of the physician and the future of the profession because the scientific side of the profession has been so capably cared for through the masterly papers of actual research and experience that are contributed to the JOURNAL from all over the country by men who know well what they are writing about.

It should be a source of great satisfaction to every doctor to realize that the policies advocated by their



journal have been investigated by the lay press and are being given daily consideration by this vital educational factor, quick enough to gather that the undoing of the medical profession is the first step towards the undoing of the complex machinery of civilization. It is hard for a sane mind to dwell in an insane body.

From the financial standpoint the JOURNAL has enjoyed a year of unusual prosperity; in fact, the best in the history of the periodical. This fine showing is the result of earnest efforts of some forty individuals and agencies that handle advertising who patronize the columns of the ILLINOIS MEDICAL JOURNAL. This splendid financial statement is doubly gratifying in spite of the policy of retrenchment in medical advertising as well as in every other line of business.

Our field advertising solicitors and the numerous agencies that handle medical advertising accounts report an increasing number of firms that have discontinued the practice of advertising in medical journals and in place of advertising have adopted the plan of appealing by letter directly to the physicians of the country, the claim being that this is not only cheaper but more effective. In spite of this and because of intensive solicitation we have been able to increase our annual income.

Constant endeavor is made at all times to keep down the operating expenses necessary for the publication of an up-to-date journal. Our printing firm has always given us a maximum service at minimum cost. Frequently attempts through competitive bids have been made by printing firms to secure the business of the Society. Such attempts invariably have resulted in failure. To date no firm has offered a bid approaching the minimum cost at which we are at present operating.

The printer of an adjoining state journal who claimed to have reduced that journal's printing cost upwards of two hundred dollars per month interested us in a scheme of publishing several adjoining state journals in a co-operative arrangement whereby he claimed he could save a considerable sum of money for the Illinois journal. His estimate was finally submitted and was found to be upwards of three thousand dollars per year more than we are now paying.

In other respects the cost has been similarly kept at a minimum. Cost of office space, salaries, etc., is as low if not lower than in most state organizations. Many state societies with membership equal to ours and others with membership only one-half that of Illinois maintain elaborate offices and a retinue of clerks, stenographers, etc. One state medical society pays \$4,500.00 per year as rental for the editors' and advertising managers' offices. In Illinois the office rent is donated. Another state society with a membership less than half that of Illinois maintains elaborate offices and pays in the way of salary to four persons (out of a retinue of employees) several thousand dollars per year more than the total cost in getting out the ILLINOIS MEDICAL JOURNAL, including printing bills, postage, salaries, etc. Another State society with a membership approximately one-fourth that of Illinois pays its editor and a business manager a sum

nearly equal to the cost of printing the ILLINOIS MEDICAL JOURNAL.

This explanation is offered to show the economy with which the state society is operating. We believe that Illinois is producing one of the best state medical journals published and that we are giving as good and probably the best service in the way of protecting the interests of the doctors as is given anywhere.

Some of our contemporaries have been so kind as to tell us, as well as the secretary, that the State of Illinois is five years in advance of the other states in the way of publicity and alertness to the interests of the medical profession.

With these generalities out of the way there are two specific and momentous questions to be set forth. As the small boy knows only too well, the final lap of the woodshed conference is always the one that stings the most and oftenest makes the greatest impression.

The country is standing now on the eve of the most momentous election since that of the years 1855-6 when the moot question of negro slavery was already casting its sable shadow over the cornfields and chimney tops of a young and prosperous country. Another kind of slavery is sticking up a shadowy head on the preliminaries of the political conventions of 1928 as forerunners to the autumn elections.

The men whom we elect as legislators in the State of Illinois, the man we make president of the United States, his cabinet and his makers and enforcers of the laws of the United States are the men and women who will nourish or crush the inimical trend of socialization of the government of the United States.

The most important thing in life right now to the future of medicine and the very life of the men who are acolytes of the mother science and to all the citizenry is the legislative question of the next four years. Those who have read the columns of the ILLINOIS MEDICAL JOURNAL know that from the start this journal crusaded against the inception of the attempts by Congress and by state legislatures to dictate therapeutic procedure or the countenance of any and all attempts at fiat legislation that might in any way interfere with the proper practice of medicine. This includes, too, attempts to affect an indirect medical service anywhere and in any way through a third party or to install an overcentralization of medical authority with the dangers attendant upon such non-American bureaucracy.

To those who have not familiarized themselves with such epitomization of the medical and legislative situation the message can only be for Heaven's sake to learn and to turn before it is too late. Already a cry is raised that must be heard demanding a revolution in the conduct of hospitals and the control of medical education. The editor does not believe in any sure-fire panacea but just as sure as mercury, quinine and arsenic are near-specifics for some of the ills of the flesh, just so surely is the wisely cast ballot of the doctors in ethics united an almost sure cure for the impositions in medical legislation and bureaucratic overcentralization now foisted upon the mother science through lay-zealots in causes of which they know little, with effects of which they know less.



Optimism is the greatest wisdom the years bring. Because the years have brought this outlook to the editor, he feels the joy of happy accuracy in predicting that because the ILLINOIS MEDICAL JOURNAL has stood inalienably for the right through countless vicissitudes that when the final count is taken the ILLINOIS MEDICAL JOURNAL, its ideals and its purposes will have honestly and fairly and firmly helped to win the fight for what is best for humanity and for science.

In passing it must be said that the ILLINOIS MEDICAL JOURNAL is not all science, propaganda and advertisements. The man who likes to keep in touch with his neighbor finds in every issue from six to a dozen pages of personals, good fellowship, small news items and other points of contact with physicians and the profession.

CHAS. J. WHALEN, *Editor*.

(It was moved that the report of the Editor be accepted. Motion seconded and carried.)

#### NEW BUSINESS

The President: We now come to new business and the first order is the appointment of the Resolutions Committee. On this Committee I wish to appoint Drs. E. P. Sloan, Bloomington, Chairman; G. C. Otrich, Belleville, and Charles E. Humiston, Chicago.

The next thing is the presentation of resolutions.

Dr. Charles J. Whalen, Chicago: I wish to introduce the following resolution:

*Resolved:* That the Illinois State Medical Society through its House of Delegates in session in Chicago, May 1928, endorses the following proposed amendment to Section I of Chapter VIII of the By-Laws of the American Medical Association and instructs its delegates to the 1928 meeting of the American Medical Association to use their best endeavors to secure its adoption:

*"Resolved,* That Section 1 of Chapter VIII of the By-Laws be amended as follows:

*Strike out the following sentence:*

*"The Council on Medical Education and Hospitals shall consist of seven members each elected for seven years"; and the following phrase:*

*"except that in 1925 three members of the Council on Medical Education and Hospitals shall be elected by the House of Delegates;"* and insert in the first sentence, after the word "ASSEMBLY," the following:

*"but excepting the Council on Medical Education and Hospitals;"* and insert in the first sentence, after the word

"COMMITTEE" where it first occurs, the following:

*"except the Council on Medical Education and Hospitals;"*

and insert after the word "COUNCIL," at the end of said section, the following paragraph:

*"The Council on Medical Education and Hospitals shall consist of six members, two of whom shall be elected each year for a term of three years immediately following election. Elections shall be by the House of Delegates, from nominations submitted by the President. For each vacancy to be filled, the President shall nominate two Fellows, for action by the House of Delegates at the time of the election of officers as fixed by the by-laws. No Fellow shall be eligible for election for more than two consecutive terms under the provision of this section as hereby amended. PROVIDED, However, that in 1928 the President shall submit nominations for the election of two members to serve for one year, two members to serve for three years, and two members to serve for three years, and members shall be elected accordingly."*

(Referred to the Resolutions Committee.)

Dr. E. H. Ochsner, Chicago: I wish to present the following resolution which was read at the last meeting of the Council of the Chicago Medical Society and approved unanimously. It has been drafted after consultation with the officers of the Chicago Crime Commission:

WHEREAS: There is wide-spread dissatisfaction with the administration of criminal justice in Illinois, and

WHEREAS: One of the causes of this dissatisfaction is the method in which experts are employed in criminal cases, therefore be it

*Resolved:* That the Chair appoint a committee of three to confer with a similar committee of the Chicago Crime Commission if and when appointed to make a study of the causes of these conditions and to seek a remedy for their relief.

(Referred to the Resolutions Committee.)

Dr. Frank R. Morton, Chicago: I wish to present the following resolution: Be it

*Resolved,* that the Illinois State Medical Society in its annual meeting in Chicago, on May 8, 1928, protest against the unfair and unnecessary increase, from one dollar to three dollars, in the narcotic tax as provided for in the pending Revenue Act.

(Referred to the Resolutions Committee.)

Dr. W. E. Kittler, Rochelle: I wish to present the following resolution:

*Resolved:* That the House of Delegates of the Illinois State Medical Society shall convene at ten o'clock in the morning on the first day of the Annual Session.

(Referred to the Resolutions Committee.)

Dr. N. S. Davis III, Chicago: I wish to introduce the following resolution: Be it

*Resolved,* that the Illinois State Medical Society at its annual meeting in Chicago on May 8, 1928, protest against the omission from the pending Revenue Act of provision that necessary traveling expenses incurred in attending medical conventions and post graduate courses of instruction be deductible in computing income tax returns.

(Referred to the Resolutions Committee.)

Dr. H. M. Camp: I wish to present the following resolution to be acted on tonight.

WHEREAS, one of our highly respected members who has attended nearly all meetings for many years, a past President of this Society, is now seriously ill at Biloxi, Miss., and unable to attend this meeting, be it

*Resolved,* that the Secretary be instructed to wire Dr. W. F. Grinstead of Cairo and express our regrets at his forced absence, and assuring him that we sincerely hope for a speedy recovery.

(It was moved by Dr. Sloan that this resolution be acted upon immediately. Motion seconded and carried.)

Dr. E. P. Sloan, Bloomington: I wish to present the following resolution:

WHEREAS: The practising physicians in any community, are the individuals most vitally interested in the health of the community, and

WHEREAS: The physicians are interested in the health and well-being of the poor as well as the rich, and

WHEREAS: Therefore, the practising physicians are the most competent to judge as to the necessity or advisability of establishing free clinics, part-pay clinics, or other institutions of medical charity, and

WHEREAS: The County Medical Society is the official organ of the ethical physician and functioning for the ethical physician acts as the official guardian of community health, now, therefore, be it

*Resolved,* that we, the members of the House of Delegates regret and deplore the tendency on the part of lay agencies, lay officials and other lay individuals, toward the promotion of inadvisable, injudicious and pernicious movements, erroneously labeled "medical charity," be it, for this reason, furthermore

*Resolved,* That we, the members of the House of Delegates, go on record as objecting to and opposing the institution of any so-called charitable medical enterprise in any community, unless such enterprise has the support or at least, the endorsement of the County Medical Society in said community.

(Referred to the Resolutions Committee.)

Dr. P. R. Blodgett, Chicago Heights: I wish to present two resolutions.

WHEREAS: The pollution of our rivers and water supplies is a menace to the public health; and

WHEREAS: The Illinois State Medical Society, through every member of its Society, is the guardian of the public health of the people of the state, therefore be it

*Resolved,* that the Illinois State Medical Society, in annual meeting this tenth day of May, 1928, endorses the national program of the Izaak Walton League of America in its laudable efforts to prevent the further pollution of streams.

WHEREAS, the voters of the state of Illinois will be called upon to render their decision upon the twenty million bond issue at the coming November election; and

WHEREAS, the passage of this measure will give to the state of Illinois its first constructive program for conservation; and

WHEREAS, the moneys necessary to retire the bonds and pay the interest will be paid from hunting and fishing licenses with no direct taxation; and

WHEREAS, the sportsmen of the state of Illinois are asking the electorate of this commonwealth, to permit them to buy with their own money these public lands for the benefit of all the people of the state of Illinois, therefore be it

*Resolved,* that the Illinois State Medical Society in annual meeting assembled at the Stevens Hotel, Chicago, Illinois, this tenth day of May,



nineteen twenty-eight, gives its endorsement to this conservation measure.

(The two resolutions were referred to the Resolutions Committee.)

The President: The time has come to decide on the hour for the next meeting of the House of Delegates. It has been customary to have the second meeting of the House of Delegates on the last day of the meeting. The suggestion has been made that this be changed for this meeting. With a two-thirds vote of this house that may be done.

Dr. Chapman: I move that the next meeting of the House of Delegates be held on Thursday morning. (Motion seconded.)

Dr. J. J. Morony, Breese: I move as an amendment to Dr. Chapman's motion that the House meet at 9 A. M. Thursday. (Amendment seconded and accepted by Dr. Chapman and his seconder.)

(The motion as amended was carried.)

The President: The Secretary has a communication to read.

The Secretary: I have a letter from Mr. Folonie relative to a malpractice suit brought against one of our members in Kentucky. This man is practising on the state line. (Reads letter.) Mr. Folonie said, in his opinion, this Society would be obligated to defend any man in an adjoining state and he thought it would be advisable to make some change in the by-laws to conform with the civil law. I looked up the records and found that six or seven years ago we had the same thing.

Dr. Chapman: I believe we should not be hasty. Many of our members live near enough to the state line so their practice overlaps. Our purpose in having medico-legal defense is to care for our members. Illinois has quite a borderline and a man might be affected by any action that might be taken.

The President: Would you suggest that the Medico-Legal Committee take any action?

Dr. S. E. Munson, Springfield: I move that the matter be referred to the Medico-Legal Committee to bring in a report on Thursday morning.

The President: Inasmuch as Dr. Fiegenbaum, the President of this Society in 1919, has passed away since the last meeting, I would suggest

that the delegates stand with bowed heads for thirty seconds.

On motion duly made and seconded the House adjourned at 11:45 P. M., to meet again on Thursday morning at 9 A. M.

#### SECOND SESSION

*Thursday Morning, May 10, 1928*

The Thursday morning session was called to order at 9:20 A. M. by the President. The Secretary called the roll and announced that a quorum was present.

The President: The next order of business is the reading of the minutes of the previous meeting.

The Secretary read the minutes which were approved as read.

The President: The next order of business is the election of officers. I will ask Dr. A. G. Bosler, Chicago, the Second Vice-President, to preside during the election of officers.

Dr. Bosler: I will call for nominations for President-Elect.

Dr. Frank R. Morton, Chicago: I would like to present the name of Dr. F. O. Fredrickson of Chicago.

(Seconded by Dr. E. P. Sloan, Bloomington.)

Dr. P. B. Blodgett, Chicago Heights: I move that the nominations be closed and the Secretary instructed to cast the affirmative ballot for Dr. Fredrickson. (Motion seconded and carried and the Chair declared Dr. Fredrickson elected.)

Dr. Bosler: The next officer to be elected is the First Vice-President.

Dr. Mundt: I should like to name a man whom I think is rather unusual. For the benefit of the downstate men this thing has been caucused and there is no objection to the man I am going to name. I think with the exception of one man, this man has been a more religious attender of the meetings of the Committee on Arrangements than any other man. It gives me very great pleasure to nominate the Chairman of the Scientific Exhibit, Dr. J. P. Simonds. (Motion seconded.)

Dr. W. S. Bougher, Chicago: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr.



Simonds. (Motion seconded and carried and the Chair declared Dr. Simonds elected.)

Dr. Bosler: I will call for nominations for Second Vice-President.

Dr. Mather Pfeifferberger, Alton: I wish to place in nomination the name of Dr. E. P. Coleman of Canton. (Motion seconded.)

Dr. W. H. Maley, Galesburg: I move that the nominations be closed and the Secretary instructed to cast the affirmative ballot for Dr. Coleman. (Motion seconded and carried and the Chair declared Dr. Coleman elected.)

Dr. Bosler: Nominations for Treasurer are now in order.

Dr. Max Adles, Duquoin: I wish to place in nomination the name of Dr. A. J. Markley, the present incumbent. (Motion seconded.)

Dr. Chapman: I move that the nominations be closed and the Secretary instructed to cast the affirmative ballot for Dr. Markley. (Motion seconded and carried and the Chair declared Dr. Markley elected.)

Dr. Bosler: The next officer to be elected is the Secretary.

Dr. E. P. Coleman, Canton: I take great pleasure in placing in nomination Dr. H. M. Camp to succeed himself. (Motion seconded.)

Dr. C. E. Wilkinson, Danville: I move that the nominations be closed and the Chair instructed to cast the affirmative ballot for Dr. Camp. (Motion seconded and carried and the Chair declared Dr. Camp elected.)

Dr. Bosler: Councilors for the Third, Fourth, Fifth and Seventh Districts are to be elected.

Dr. M. W. Brucker, Chicago: I would like to place in nomination as Councilor for the Third District, Dr. J. S. Nagel to succeed himself. (Motion seconded.)

Dr. Fredrickson: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Nagel. (Motion seconded and carried and the Chair declared Dr. Nagel elected.)

Dr. Coleman: I wish to place in nomination Dr. W. D. Chapman as Councilor of the Fourth District to succeed himself. (Motion seconded.)

Dr. Maley: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Chapman. (Motion seconded and carried and the Chair declared Dr. Chapman elected.)

Dr. C. S. Nelson, Springfield: I take pleasure

in nominating Dr. S. E. Munson of Springfield as Councilor of the Fifth District to succeed himself. (Motion seconded.)

Dr. J. S. Templeton, Pinckneyville: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Munson. (Motion seconded and carried and the Chair declared Dr. Munson elected.)

Dr. G. L. Armstrong, Taylorville: I wish to nominate Dr. I. H. Neece of Decatur to succeed himself. (Motion seconded.)

Dr. Wilkinson: I move that the nominations be closed and the Secretary instructed to cast the affirmative ballot for Dr. Neece. (Motion seconded and carried and the Chair declared Dr. Neece elected.)

Dr. Bosler: The next will be the election of Standing Committees.

(Nominations were presented in each case and the Secretary instructed to cast the affirmative ballot and the Chair declared them elected.) The following committees were elected:

*Public Policy:* Drs. Emmet Keating, Chicago; George Michell, Peoria; and H. J. Way, Chicago.

*Medical Legislation:* Drs. John R. Neal, Springfield; C. E. Humiston, Chicago; and Edward Bowe, Jacksonville.

*Medico-Legal:* (Two members elected) A. H. Geiger, Chicago; and Walter Wilhelmj, East St. Louis.

*Relations to Public Health Administration:* Drs. F. F. Maple, Chicago; E. D. Levisohn, Chicago; E. H. Weld, Rockford; T. B. Knox, Quincy; E. W. Mosley, Chicago.

*Medical Education and Hospitals:* Drs. E. H. Ochsner, Chicago; W. M. Hartman, Macomb; and W. R. Marshall, Clinton.

Dr. Bosler: The next will be the election of Delegates and Alternate Delegates to the American Medical Association.

(Each delegate was nominated in turn and the Secretary instructed to cast the affirmative ballot for the five. The Chair then declared them elected.) The following were elected:

W. A. Pusey, Chicago;

C. J. Whalen, Chicago;

G. H. Mundt, Chicago;

T. O. Freeman, Mattoon;

E. P. Sloan, Bloomington.

Dr. Mundt then took the Chair.

Dr. Van Derslice: As a usual proposition alternate delegates are elected as alternate to the individual. The Credentials Committee has ruled that alternate delegates may be elected as delegates at large and in that way serve in the absence of any delegate. These alternates should not be elected for the individual; they should be elected at large. The Credentials Committee have allowed this ruling. I recommend that we elect delegates at large.

Dr. Munson: I cannot see but what it would cause a great deal of conflict. It is all right for the A. M. A. when they are in session to accept a man as alternate at large. I think as a precedent the alternate should be specifically elected for the delegate.

Dr. Van Derslice: What Dr. Munson said is of course true. When the Secretary of the State Society sends in the names of the delegates to the A. M. A. on the card submitted to him, he places the name of the alternate delegate on the opposite side with the name of the delegate for whom he is to serve as alternate. If these alternate delegates are elected delegates at large and if a specific alternate is not there, any one of the alternates may serve in his place. There is no difficulty and there is no jamming some one else in some one else's place. The downstate men may designate the definite alternates. The Credentials Committee has ruled that the state is entitled to it full seating.

Dr. Armstrong: Dr. Van Derslice may be quite right on the recent ruling of the House of Delegates of the A. M. A. A number of years ago I was selected delegate to the Atlantic City meeting. Some of the delegates were absent and we had six alternates and they refused to seat any one of them.

Dr. Sloan: This matter was threshed out three years ago. Dr. Van Derslice's contention was accepted in the A. M. A. We can designate that these men have been elected delegates at large.

The President: I will ask the Secretary to read the ruling.

The Secretary: I have the certification blank to be sent to the A. M. A. on the back of which they have the ruling relative to credentials. It reads as follows:

"The credentials shall be of two parts. The first part shall be sent to the office of the Secretary of the American Medical Association by the

Secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of the delegates and alternates for that association. The constituent association shall designate the alternate for each delegate, who make take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in the place of any delegate who is unable to attend, provided he presents the proper official authority from said association. A certificate signed by the president or secretary of the constituent association shall be deemed legal authority. (As amended June 7, 1928.)"

The President: It seems to me this question is answered.

Dr. C. S. Nelson, Springfield: I think Dr. Van Derslice clarified that in his last talk. We still want to know who is the alternate. I think each delegate elected should know who his alternate is. In case an alternate is unable to attend any alternate can serve.

Dr. Munson: I accept the ruling as read by the Secretary. I wish to place in nomination Dr. C. S. Nelson, Springfield, as alternate for Dr. Sloan.

Dr. Andy Hall, Mt. Vernon: I wish to place in nomination Dr. G. C. Otrich, Belleville, as alternate for Dr. Freeman.

Dr. Fredrickson: I wish to nominate Dr. N. S. Davis III, Chicago, as alternate for Dr. Pusey.

Dr. E. D. Levisohn, Chicago: I wish to nominate Dr. Emmet Keating as alternate for Dr. Mundt.

Dr. J. S. Nagel, Chicago: I wish to nominate Dr. S. J. McNeill, Chicago, as alternate for Dr. Whalen.

Dr. J. S. Templeton, Pinckneyville: It is very necessary that something be done regarding the election of these alternates as alternate at large. Dr. H. H. Turner, who was elected last year, is very sick and will not be able to attend this year.

The Secretary: We have one thing that was overlooked here. One downstate alternate has died, Dr. E. W. Fiegenbaum, who was alternate to Dr. Pfeifferberger.

Dr. C. S. Skaggs, East St. Louis: I would



like to nominate Dr. M. E. Brennan, East St. Louis, as alternate to Dr. Pfeiffenberger.

The President: The Secretary feels that there should be another alternate elected for Dr. Skaggs in place of Dr. Turner.

Dr. Chapman: In the event of a vacancy the Council has the power to act.

(It was moved that the nominations be closed and the Secretary cast the ballot for the alternates named. Motion seconded and carried.)

Dr. E. H. Ochsner, Chicago: I move that these alternates be designated as alternate delegates at large. (Motion seconded and carried.)

Dr. Ochsner: I move that alternates who have just been elected be elected as alternates at large. (Motion seconded and carried.)

Dr. Pfeiffenberger: At this time two members of our Council are absent on account of sickness. I move that a letter be sent to Drs. Penniman and Ferguson expressing our regret at their absence and hope for an early recovery. (Motion seconded and carried.)

Dr. N. S. Davis: I would like to take this opportunity of introducing to the House of Delegates the new First Vice-President, Dr. J. P. Simonds.

Dr. Simonds: I assure you this is an honor that I very highly appreciate. I am going to consider it not an honor to me personally but an honor to that group of medical men who are commonly designated as practising the subject of scientific medicine in contrast to those who are designated as following the practical side of medicine. I think it would be well for both of these groups to get closer together. They are already far closer together than they realize because the practitioners of medicine are becoming far more scientific than they used to be. I have realized by coming in contact with men in the practice of medicine on the one hand and the men engaged in scientific medicine on the other that these apparent differences are very small. I shall consider this honor as not applying specifically to me but to those engaged in the so-called scientific branch of medicine as distinguished from the practical, with this understanding that the two in my mind are mighty close together if they do not occupy the same place at the same time.

The President: May we take this opportunity to have Dr. Morton escort the President-Elect to the front.

Dr. Morton: Dr. Fredrickson has been very active in the North Shore Branch of the Chicago Medical Society for the past few years. He first served as secretary and beginning with his secretaryship the North Shore Branch grew in numbers. He also increased its treasury so that at the present time the North Shore Branch happens to be very well off. He was afterwards elected president of the North Shore Branch and following that to the Council. Since he has been in the Council he has been Chairman of the Membership Committee and Chairman of the Laboratory Committee. In all these committees when he takes the ship we always get a good job. I wish to introduce Dr. F. O. Fredrickson.

Dr. Fredrickson: Heretofore when the President-Elect has been introduced he has not made any speech. I think we ought to follow that precedent. I do not know just what to say, but as Dr. Simonds has already said, I would like to have the scientific side of medicine and the practical side of medicine work in harmony and neither one working in opposition to the other. In spite of the fact that we have seemingly some legislative difficulties and difficulties in regard to clinics and the various institutes of medicine, I think we can come to some agreement whereby the other side of medicine will recognize and come over to the general practitioner who is working on the outside in the treatment of human ills. It certainly gives me great pleasure to see that I have so many friends that wish me well that I hope in the pursuit of president-elect my services will be such that it will be an honor not only to the Chicago Medical Society and the Chicago delegation but also to the delegation of the whole state of Illinois and also all the doctors of the state of Illinois. I wish to thank you for the honor.

The President: I would like to have Dr. Bosler introduce Dr. Coleman, the Second Vice-President-elect.

Dr. E. P. Coleman: The President-elect said a good deal when he said speeches should not be allowed. You know in most cases when there is a president-elect the vice-president is excess baggage, and the second vice-president even more so or less.

Dr. Andy Hall: Since our last meeting a man who for many years was Councilor of the Eighth District has passed away. I move that

the Secretary be authorized to write to Mrs. C. E. Price of Robinson. (Motion seconded and carried.)

The President: The next order of business is fixing the per capita tax for the coming year. The Secretary recommends that it remain at eight dollars.

Dr. Templeton: I move that the per capita tax remain at eight dollars. (Motion seconded.)

Dr. Max Adles, Duquoin: I would like to have it explained why it should remain at the same price. Some of the men claim that eight dollars is too much. I have explained that the expenses are very great. They say we would get more doctors if the per capita was not so high.

Dr. Chapman: I think the point is very well taken. The House should always take the time to explain financial matters to the delegates. The fact is that the Illinois State Medical Society is operating on a lower financial output than any other comparable state. The Council endeavors to keep in touch with other societies and to know something of what they are doing and spending. There are only two means of raising money, one by dues and the other by journal advertising. I do not think there is any state Journal in the country, unless possibly it is the California Journal, whose advertising pays the expense of publishing the Journal. I am very confident that in no other state does the income pay the expenses. The expenses of operating the Journal, the expenses of the Medico-Legal Committee, the expenses of the Legislative Committee, which is not great, the expense of the Educational Committee's work are the chief items. At the present time it happens that the Society has placed an amount of money on time deposit at interest but the Council did not feel justified in recommending a reduction of dues at this time for the reason that these are dollars saved and they will become very useful in a period of depression. It is not strictly speaking a savings account. It is merely a temporary deposit. Next year our legislative expenses will be much greater than they have been during the past year. Next year our Medico-Legal Committee's expenses will probably be much greater than in the past year. In the work of both Committees we have been exceedingly fortunate from a financial standpoint. Dr. Adles may inform his delegates regarding this

matter. I know of no comparable state society that has been able to function on eight dollars per year. I know of several which had to collect very much more. I know that in Texas a very few years ago they raised their dues to \$25.00. The delegates are entitled to a statement when they raise the question. I have reason to believe that the men who raise the question are not familiar with the activities of the Society. If they will take the time to read the reports of this House of Delegates as published in the Journal, they will find it very much to their advantage. The dues in California are \$25.00 per year.

Dr. I. F. Harter, Stronghurst, Ill.: If I am not out of order I should like to request some further information regarding expenses. I should like to ask if our efficient Secretary draws a salary for his strenuous services; if not, would it not be well to discuss the advisability of doing something for the privilege of the great amount of time that he expends. If necessary, I would be in favor of increasing our per capita tax for that purpose because I think the members of the Illinois State Medical Society are able to pay something toward the services of their Secretary.

Dr. Chapman: I think that the Illinois State Medical Society is operating both the secretarial and editorial services at what practically amounts to a charity basis. Both of these gentlemen draw salaries but not salaries entirely commensurate with the work, time and energy expended. The Council has considered economy and fairness in fixing these salaries. This is a Council function and does not belong to the House of Delegates. At the present time the Secretary's salary is \$2,400.00 and is not to be compared with the salaries of secretaries in other states. Michigan with half our membership has been paying \$15,000.00 to a general manager and secretary. Texas has also been paying a high salary. The Council has endeavored to be fair.

The President: I should like to say that up until about three months ago the Secretary's salary was \$1,200.00, then it was increased to \$2,400.00.

Dr. Tuite: In connection with what Dr. Chapman has said about salaries and the revenue from dues and advertising, I want to stress the advertising feature. From a conversation which



I had with the Editor at a recent meeting, it appears that he has great difficulty in selling his wares and he complains that our members do not patronize the advertisers, or if so, they do not make known their identity. There is one city in the state in which when a salesman comes in to a doctor, he is asked if his firm advertises in the Journal. If not, they do not listen to him. If we had twelve such cities the Journal would be on a paying basis. I call attention to this in our local society and Dr. Sloan does the same.

Dr. Morton: Dr. Adles is talking about increasing the membership by reducing the dues. Two years ago we raised our dues in Chicago to \$15.00 and we have increased our membership. We just passed a resolution at the Chicago Medical Society to employ an executive manager and we expect to pay him \$10,000.00 or \$15,000.00 a year. Personally I do not think it is so much the dues per year but how much the Medical Society does for medicine, especially economics.

The President: I wish to state that since the dues were increased the membership has been increased.

Dr. Adles: I do not want it from a personal standpoint. My remarks were made because I was requested to make them. I was secretary of Perry County and one member was carried on as a social member just because of the fact that he did not pay any dues. My representation is in the southern part of the state. Several of the men have approached me and I thought this was the place to air our grievances. I have no idea about wanting the dues reduced. The secretaries of all the county societies should know something about this. This is the situation: I feel that in the southern part of the state the medical man has perhaps more hardship to collect his dues and measure out where it goes. I believe to some of them it is a hardship. If we explain to them why it is eight dollars, they will understand. Dr. Andy Hall just told me that the \$25.00 a year paid in California does not take in medico-legal protection. We have that protection. What I mean is to explain to these people by some pamphlet where the money goes to.

The President: The Chairman is very anxious that there be no idea that this is steam rolled through. We have all day to discuss it because it should be clarified to every member.

The Secretary has some pamphlets which he will mail to you or to anybody else who wishes them.

Dr. M. L. Harris, Chicago: As a matter of comparison to show how fortunate we are, the annual dues and assessments of the state society in Idaho are \$50. We ought to be thankful that we can get along on \$8. We deliver the same service to physicians that they are getting in Idaho for \$50.

Dr. Templeton: I am also from southern Illinois. I recall a few years ago when they raised the dues. I doubt if a single county has lost a member because the dues were raised to \$8. Jefferson County, which Dr. Hall represents, pays \$15 per year. They have one of the most active county societies. In Perry County we did not lose a single member. We do not charge even \$10, but we charge \$8, and sent it up here. I do not think it is at all out of place to discuss this before the House of Delegates. I do not want to leave the impression that southern Illinois is kicking. I believe that every fair minded man recognizes the benefits we are receiving from the State Society. I believe we have the best State Society in the United States. I believe from a practical standpoint that we are doing as much as any other. I do not think that eight dollars is a cent too much.

Dr. Munson: One thing that very greatly accelerated the payment of dues in Sangamon County has been two malpractice suits last year. If you get a malpractice suit on your hands and you are not a member of your county society, I would say God pity you.

Dr. Henry F. Bruning, Chicago: In the last several issues of the ILLINOIS MEDICAL JOURNAL there appeared many articles telling the members of the benefits they have received from the State Society.

Dr. Andy Hall: In my county we send \$8 every year to the State Society. We use \$7 more in our county for entertainment. We have not lost a member in our county. Every eligible man in the county is a member of our society.

Dr. C. S. Nelson, Springfield: I was very glad this question came up. I appreciate the position Dr. Adles is placed in. I have heard such complaints. This discussion will give us a little ammunition to present to this class of physicians. A few years ago I was in a little town in our county visiting a physician a few days before our meeting. I asked him if he were

going to the State meeting and he said he was not a member. I asked him if he were not a member of the Sangamon County Medical Society and he said he dropped out after they raised the dues. I explained to him the benefits derived from membership in the State Society. When I finished he asked me to bring his check to the Secretary of the Sangamon County Medical Society. He wrote his check and is now an active member.

Dr. E. H. Ochsner, Chicago: I have felt that the Illinois State Medical Society is operating more or less on a charity basis. I have been a conscientious opponent of undeserved charity. I have felt for a good many years that we have not paid the Editor of the JOURNAL one-fourth the salary that he should have. I would recommend to the Council of the Illinois State Medical Society if they can find the money anywhere to make good this neglect. If you were to buy the services of a non-medical man to render service to the State Medical Society, you would pay him \$10,000 or \$15,000 a year and you would not get half the service you have had for a good many years from Dr. C. J. Whalen.

Dr. Elizabeth R. Miner, Macomb: It is not only the legal protection that we get from our own State Society. The Fort Wayne Company says that unless a man is a member of his county society they will not insure him.

Dr. Charles D. Center, Quincy: Coming from a down state district, just as my friend there, I can appreciate his position. There is one other feature that has not been brought out, that is the legislative feature, which is very great—the protection against adverse medical legislation every two years. If you pay your eight dollars for that alone it is worth while.

Dr. W. H. Smith, Benton: Answering the question from Duquoin as to why there are not more men here from southern Illinois. You take Hardin and Pope Counties, there are not enough physicians in those counties to fill the offices of the county societies. There is no physician living in Elizabeth. There are many other counties in which there are not enough physicians to fill the offices of the county society.

Dr. W. C. Blaine, Tuscola: Would it not be a good idea for the Secretary of the Illinois State Medical Society to send copies of the benefits of the State Society as published to every

doctor that is an eligible member, if he has a list of those that are not members. In my counties there are four doctors who are pretty well along in years and are plenty able to pay dues but still they do not belong. They do not get the JOURNAL.

Dr. W. E. Kittler, Rochelle: That would entail work on the part of the Secretary. I would suggest that some pamphlet or some manuscript be sent to the secretaries of the counties and let the secretaries send them out.

Dr. J. J. Morony, Breese: I am from Clinton County, a part of southern Illinois. From what I read lately about the chiropractors we are not paying what we should. They pay as high as \$200 for legislative work alone. My friend from Duquoin need not worry about the eight dollars. It is not sufficient to keep any man out.

Dr. W. E. Shastid, Pittsfield: I want to say a word from the standpoint of the county medical society. I served twelve years as secretary. A lot depends on the secretary. He can tell each member definitely what he is getting. When I was secretary they told me the dues were too high. I said to them, "When you get one of the best journals in the county and protection against malpractice and the backing of the State Medical Society, when you have a Legislative Committee that is looking after your interests, what do you expect?" Some members will say, "I do not know whether I am getting eight dollars' worth out of it," but in most cases we have no difficulty in convincing them that eight dollars is a very small sum.

Dr. W. H. Smith, Benton: We have in Franklin County non-eligibles. They should be approached.

The President: It has been regularly moved and seconded that the per capita tax be \$8, are you ready for the question?

(Motion carried.)

The Secretary: For the benefit of the men who want an outline of the activities of the Society, I have quite a number of reprints of the article published some two or three years ago in the JOURNAL. Again considering the fact that so many men are not clear on this subject, with the consent of Dr. Whalen I think we can arrange next month to have this brought out in the JOURNAL. I will be very glad to send this report to any one who wants it.



Dr. Whalen: I have on all occasions endeavored to keep the cost of publishing the JOURNAL at a minimum. Only recently, as Dr. Bruning called to your attention, in either February or March, I published every possible phase of the advantages that the doctors were receiving from membership in the State Society. That is all fresh in the recent issues of the JOURNAL. My suggestion is to put it in pamphlet form and send it to the various county secretaries who can hand it out to the men who need it. They will not have to read the rest of the JOURNAL to get it.

Dr. Neece: In my district when a man does not pay the \$8.00 he does not get the JOURNAL.

The President: I am not quite clear on this Alternate matter. I will ask the Secretary to read the names of the Delegates and the men who will alternate for them.

The Secretary: The list follows:

Delegate W. A. Pusey, with N. S. Davis as Alternate.  
 Delegate G. H. Mundt, with Emmet Keating as Alternate.  
 Delegate C. J. Whalen, with S. J. McNeill as Alternate.  
 Delegate E. P. Sloan, with C. E. Nelson as Alternate.  
 Delegate T. O. Freeman, with G. C. Otrich as Alternate.  
 Delegate M. Pfeiffenberger, with M. E. Brennan as Alternate.

Dr. Van Derslice: Dr. Humiston has no alternate. Dr. Keating was elected his alternate last year and now he is alternate to two men.

Dr. Sloan: I move that we revert back to the matter of election of alternate delegates. (Motion seconded and carried.)

Dr. Humiston: May I have the pleasure of nominating Dr. J. J. Pflock? (Motion seconded.)

(It was moved that the nominations be closed and the Secretary instructed to cast the affirmative ballot for Dr. Pflock. The Secretary cast the ballot and the President declared Dr. Pflock elected.)

The President: The next order of business is the selection of the 1929 meeting place.

Dr. R. L. Green: I wish to present an invitation from Peoria.

Dr. Van Derslice: I desire to make a motion to the effect that in casting the vote for the place of meeting next year an informal ballot be taken and that informal ballot be given to the Council of the State Society and the Council select the meeting place. At the American Medical Association they are submitting names now and men from the main office go out and

inspect the different places, to see whether they have hotel facilities and proper meeting places. I believe we can submit three names and if the House of Delegates desires to retain its prerogative of recommending one place over the other, well and good, but I believe we would be better off if we depended on the Council.

I, therefore, move you that the selection of the place of meeting for 1929 be left to the Council. (Motion seconded.)

Dr. Keating: On many occasions the hotel facilities have been inadequate. I think it is a wise and proper thing to leave it to the Council. The Council has the time to investigate conditions.

Dr. Cleaves Bennett, Champaign: I would like to know if the constitution and by-laws do not specifically provide that the House of Delegates select the meeting place.

The President: It does, but a two-thirds vote will amend the by-laws. Chapter XII of the by-laws reads:

"These By-Laws may be amended by the House of Delegates at any annual session by a two-thirds vote of all the delegates present."

I think this House of Delegates should go on record as to a meeting place but not definitely insist that we go to that place.

Dr. Bennett: I think this body should have the deciding vote as to where it goes.

The President: The Chairman feels the House should have the privilege of making a recommendation but they should not designate absolutely that we go to a certain place.

Dr. Sloan: When a matter is referred to a committee with power to act it is the delegates' action. If you refer it to the Council with power to act that is the delegates' action.

Dr. J. J. Morony, Breese: Are the Councilors members of the House?

The President: Yes.

Dr. Morony: I am in favor of the Council's being a Committee in deciding where the next meeting be held.

Dr. Nagel: Just one word in favor of this motion. Just a few years ago we went to a city downstate where the hotels all but invited us to go out on the sidewalks.

Dr. R. L. Green, Peoria: In the American Medical Association we have had difficulty in getting accommodations for the delegates. The

time of meeting should be left to the Council. I would like to see it settled that the meeting be held in Peoria.

The President: The motion is that this be referred to the Council after a preferential vote made by the House of Delegates, with power to act.

Dr. Bennett: I do not think this body should change the order on this. The Council will do what they are ordered to do. The point is that this thing should be settled. There are some criticisms for every place, even in Chicago, and always will be. I think this proposition should be settled in this room at this meeting.

Dr. T. O. Freeman, Mattoon: I have been a member of the House of Delegates of the American Medical Association for several years. I was there when this authority was delegated to the Trustees. The Trustees have never gone on record against a town that was recommended by the body at large.

The President: Passing the motion will not abrogate the authority of the House of Delegates to designate its preference as to a place of meeting if the proper arrangements can be made for a meeting in that city.

Dr. Tuite: With that understanding, I think the Council should finally settle it. We should settle it, but if any reason shows up why they should not go to a certain place, the Council should have power to act.

Dr. Van Derslice: I just want to say one thing. It is not because I want to take any prerogative away from this body. Two years ago the American Medical Association had to go to a town and take a fairground. They had to remove every partition in the fairground and had to replace them and it cost \$10,000 to rebuild the fairground after we had been promised an absolutely free meeting.

The President: The motion is that the final decision on a place to meet after a preferential vote be delegated to the Council of the Illinois State Medical Society with power to act after investigation made by the Council. We will take a rising vote. (42 were in favor and 26 against the motion.) The motion is carried.

Dr. Freeman: You said it had to be a two-thirds vote.

Dr. Nagel: I rise to a point of order; this is only a reference vote.

Dr. Van Derslice: I want to make this motion. I believe that in this vote there were more people from Chicago voted on it than from downstate. I move to rescind that motion and let the downstate people decide. (Motion seconded.)

The President: The Chair rules that the motion be rescinded and the last motion is in order.

Dr. Pfeifferberger: It is the whole body that is voting on this and every Chicago delegate has the same right to vote as a downstate delegate.

Dr. Andy Hall, Mt. Vernon: According to the statement made, it is necessary to have a two-thirds vote to amend the by-laws. According to the number here, it would require 52 votes for a two-third vote. This vote was carried 42 to 26, therefore, the original motion was lost. I suggest that we take up the regular order of business.

Dr. Tuite: I do not see why there should be any confusion. Dr. Van Derslice's first motion was very fair. It was that we refer this matter after expressing ourselves in a preferable way to the Council. This is all right. If we select Peoria and we are not satisfied with the arrangements, we can go to Quincy. We are not taking anything away from the House.

Dr. Nagel: I rise to a point of order. I want a ruling as to whether this motion of Dr. Van Derslice's was not a referred motion which did not require a two-thirds vote. I ask for a ruling from the Chair.

The President: There was no statement made at any time in the motion as made by Dr. Van Derslice that this was to abrogate the by-laws. The ruling of the Chair is that the motion was to refer it to a committee and that committee is the Council. On that ground the Chair would rule that a majority vote having been received the motion was carried.

Dr. Humiston: The Chair has ruled that that motion was passed. I think that is correct, strictly speaking, and from a parliamentary standpoint. I move a reconsideration of that action, which is strictly in accord with Roberts' Rules of Order. (Motion seconded by Dr. W. H. Maley, Galesburg.)

Dr. Kittler: I voted against this motion. I think it is entirely out of place. I am willing to abide by the decision of the House.

The President: The motion as made was that



we reconsider the motion that was just passed, that the matter be referred to the Council. (The motion is carried.)

Dr. E. D. Levisohn, Chicago: I move that we give these people opportunity to place before the House of Delegates the names of the places for the 1929 meeting and then take a preferential vote.

Dr. Humiston: We are reconsidering the motion that is still before the House. I believe, as Dr. Bennett says, that we should express our preference. If for any reason the Council should like to change that we might give them that power after we select a place.

The Secretary: I would like to say a few words. I believe in being entirely neutral as far as the contending cities are concerned. I want to say first the Council did not ask for this action. The reasons are very obvious. When they tell us in these cities that they have an 800-room hotel, it does not mean that they have 800 rooms available for us. We should know how many rooms are available for us after the transients are taken care of. Another thing worthy of consideration is the fact that during the past ten years on one or two occasions, as Dr. Chapman will remember—one quite vividly, after the arrangements were made and he went around to pay the bills he paid about twice what he should have paid for our exhibits. This year we have the largest number of exhibits we ever had. We believe next year we are going to have the best exhibits a downstate meeting has ever had. That is one thing to take into consideration. The same thing applies to meeting place.

The President: We are back to the original motion, that the House of Delegates refer after a preferential vote their action to the Council with power to act in the selection of a 1929 meeting place. The Chair suggests that the vote be taken by roll call and we will so proceed.

Dr. Armstrong: I think this is the proper business proposition. If we want to tie up the Council a little closer why not make two or more preferences in our instructions.

Dr. T. Kirkwood, Lawrenceville: It is a business proposition. If we pick out any one town for the convention, then we have to abide by the proposition they make us. If we have two or three towns, we can drive a better bargain.

The President: It has been suggested that instead of vote by roll call we take a standing vote. (The motion is put. Fifty-nine are in favor and none opposed. The motion is carried.)

Now we will have the preferential vote. I would rule that inasmuch as Dr. Green spoke before, he be permitted to speak again.

(Dr. Green extended an invitation from Peoria; Dr. C. E. Wilkinson from Danville, and Mr. P. McGinnis brought an invitation from the civic bodies of Joliet.)

The Secretary: I have received a large number of telegrams and quite a number of letters from Peoria, Danville, and Joliet.

Dr. Maley: I move that the Secretary prepare a ballot and pass around to the members. (Motion seconded.)

Dr. Sloan: I move that we take a standing vote.

Dr. McDermott: I move that the motion made by Dr. Maley be laid on the table. (Motion seconded and carried.)

Dr. Sloan: I move that we take a standing vote, the town receiving the highest number of votes be given first choice, and so on. (Motion seconded and carried.)

The President: We will proceed to vote on the choice of cities in the order in which they will be referred to the Council. (Peoria received 38 votes, Danville 9, and Joliet 20.)

#### UNFINISHED BUSINESS

The President: The first thing will be the report of the Resolutions Committee, Dr. E. P. Sloan, Chairman.

#### 1. PROPOSED AMENDMENT TO THE BY-LAWS OF THE AMERICAN MEDICAL ASSOCIATION

(Introduced by Dr. C. J. Whalen)

(See page 24.)

Dr. Whalen: I move the adoption of this resolution with instructions that the Secretary report the action to the House of Delegates of the American Medical Association. (Motion seconded and carried.)

#### 2. DISSATISFACTION WITH THE ADMINISTRATION OF CRIMINAL JUSTICE IN ILLINOIS

(Introduced by Dr. E. H. Ochsner.)

(See page 24.)

Dr. Sloan: I move its adoption. (Motion seconded and carried.)

3. PROTEST AGAINST INCREASE IN NARCOTIC TAX  
(Introduced by Dr. Frank R. Morton.)  
(See page 24.)

Dr. Sloan: I move the adoption of the resolution. (Motion seconded and carried.)

4. CHANGE IN TIME OF MEETING OF FIRST SESSION OF HOUSE OF DELEGATES  
(Introduced by Dr. W. E. Kittler.)  
(See page 25.)

Dr. Keating: I move its adoption. (Motion seconded.)

Dr. Pfeifferberger: The conflict I see is that it will probably interfere with the Secretaries' Conference.

Dr. Van Derslice: We should think somewhat of railroad time before making any definite ruling. There is an objection to running two meetings the same evening. It seems to me instead of calling men away from home twenty-four hours earlier to attend a morning session the time should be set for the hour when the greatest number of men come in. The town will very largely decide. I think the entire program except the election of officers should be left to the Program Committee.

Dr. Nagel: I want to add just a word of caution. We have heard a good deal about hard roads. There are some places to which we cannot get before ten o'clock. I am of the opinion that the town and local conditions should govern the time of meeting of the House of Delegates rather than a specific time.

Dr. Emmet Keating, Chicago: My reason for proposing this hour was because of what happened last Tuesday evening. I think Dr. Van Derslice is all right in his statement. If we can meet at three or four o'clock or in accordance with the trains, that is all right, but I am fighting against having a meeting at eight or nine o'clock at night.

Dr. Humiston: I would like to move an amendment to state that the meeting be held not later than six o'clock. There is no need of the Program Committee thinking that the House of Delegates can come in conflict with something. (Amendment seconded.)

Dr. Sloan: This could be changed to: Resolved, that the House of Delegates shall convene in the day on the first day of the session. That would leave the time open.

The President: We have an amendment to the motion that the House of Delegates convene not later than four o'clock.

Dr. Pfeifferberger: I move that it be tabled and referred to the Council and the local Program Committee. (Motion seconded and carried.)

5. PROTEST AGAINST PENDING REVENUE ACT  
(Introduced by Dr. N. S. Davis III.)  
(See page 25.)

Dr. Ochsner: I move the adoption of the resolution and that a copy be sent to the members of Congress from this state. (Motion seconded and carried.)

6. PROTEST AGAINST THE INSTITUTION OF SO-CALLED CHARITABLE MEDICAL ENTERPRISES  
(Introduced by Dr. E. P. Sloan.)  
(See page 25.)

Dr. Sloan: I move its adoption. (Motion seconded.)

Dr. S. E. Munson, Springfield: It is of very vital importance to our county societies and I think it would be well if our Secretary had copies of this resolution made and distributed to the members.

Dr. P. R. Blodgett, Chicago Heights: This is one of the most important subjects in the matter of medical economics. We must guard against the encroachment of these lay medical organizations if the practice of medicine is to be saved for the young men and women who will come into it in the future.

The President: The Chair asked that this resolution be brought in because of a matter that has developed in the County of Cook.

Dr. Bruning: We can pass as many resolutions as we wish. If we do not put a penalty on the practitioners who are connected with these lay organizations we will not get any effect. The doctors are their own worst enemies. If the doctors would not take part in these free clinics there would not be any free clinics.

The President: That is up to the local medical society. The very subject Dr. Bruning has in mind could not happen in this place because the man who is responsible for some of this is not a member of organized medicine.

(The resolution is carried.)



7. SUPPORT OF THE ISAAC WALTON LEAGUE IN ITS EFFORTS AGAINST POLLUTION OF STREAMS

(Introduced by Dr. P. B. Blodgett.)

(See page 25.)

Dr. Sloan: I move its adoption. (Motion seconded and carried.)

8. CONSERVATION OF PUBLIC LANDS

(Introduced by Dr. P. B. Blodgett.)

(See page 25.)

Dr. A. T. Leipold, Moline: I move that this resolution be laid on the table. (Motion seconded and carried.)

Dr. Neece: I think it is perfectly right that we recognize the services rendered to the Illinois State Medical Society and I therefore move that we, the House of Delegates, give a rising vote of thanks to the Chairman on Arrangements, Dr. N. S. Davis III, and all other Committee Chairmen; the Chicago Medical Society; Woman's Auxiliary Branch of Chicago Medical Society; Woman's Reception Committee; Dr. J. P. Simonds for his time, thought and energy in arranging the exhibits; the great Universities and their corps of teachers for placing at our disposal their facilities; Mr. William J. Hennessy of the Chicago Association of Commerce, Mr. Bowman, Convention Manager, Stevens Hotel, and any others, and that the Secretary write a personal letter expressing our appreciation for the fine spirit of cooperation which has characterized this meeting. (Motion seconded and carried.)

The President: Dr. Ballinger has a report on a matter that was referred to him at the first meeting.

Dr. Ballinger: This is a proposition that came before the Medico-Legal Committee, the proposition of defending members of the State Society practicing outside the state of Illinois. We have a case in the southern part of the state where a doctor was sued for malpractice in an adjoining state, Kentucky. The question came up before the Committee and we thought it was well to get a ruling from the House. Section 6, Chapter IX of the By-Laws says: "The Medico-Legal Committee shall have charge of and defend against claims and suits for civil malpractice presented, or brought against any member of this Society in good standing, who was in good standing at the time of the alleged commission

of malpractice, provided such member has complied with conditions hereinafter mentioned."

The Committee believes that the letter of this by-law should be followed and that any one practicing in an adjoining state should be defended without question, with the privilege of referring any unusual case to the Council. I, therefore, move that the Medico-Legal Committee have the power to refer to the Council any doubtful case of malpractice brought outside the state against a member in good standing. (Motion seconded.)

Dr. Pfeifferberger: This is a very important situation. Illinois has quite a line of boundary and men frequently are called across the border to adjoining states. If they are men in good standing they should have this protection. If they have changed their residence to California temporarily and are not registered in that state, then the Committee should look into it and I think that should be referred to the Council, and let every case stand on its own merits. (Motion carried.)

Dr. Van Derslice: We enter into a definite agreement with every member in good standing that we will protect him. I move that as we are carrying men in good standing who are residing as far west as California, that we take care of the men who are practicing on the border but that men who are practicing rather distant from this state should not be entitled to our protection.

Dr. Chapman: It seems to me that the importance of this is over-estimated. Any man moving out of the state and practicing out of the state in one year becomes a non-member. The purpose of the Medico-Legal Committee is to take care of members of the Illinois State Medical Society.

Dr. Van Derslice: I move you that Mr. Folonie be requested to bring in to this House of Delegates an amendment to our contract with our members covering this point. (Motion seconded.)

Dr. Bruning: I know men who have lived in California for years and still pay their dues in the Chicago Medical Society.

The Secretary: They are automatically suspended.

The President: The logical thing is to have this drawn up in legal form and presented at the

next meeting of the House of Delegates so they can act on it.

Dr. I. F. Harter, Stronghurst: I have paid dues for forty-five years and when I go to California I practice medicine legally in California because I am registered there. I would not ask the State Medical Society's attorney to go to California and defend me in a malpractice suit brought against me in that state.

(Dr. Van Derslice's motion carried.)

The President: May I tell you once more that I appreciate very much the honor of having been made President-elect of the Illinois State Medical Society. I did not quite know when Dr. Nagel was talking about Champaign whether he was referring to me or not. I do want to say that I appreciate this.

Before we adjourn I want to take this opportunity of presenting to you the man who will be president of the Illinois State Medical Society tomorrow, Dr. Tuite.

Dr. Tuite: I wish to thank you and to thank Dr. Mundt. I do not want to impose upon you with a speech, as you have been here a long time. I would like to bring the meeting to a close.

Dr. Nagel: I would like to make a motion that the House of Delegates give a rising vote of thanks to the retiring President, Dr. Mundt, for his courteous treatment of the delegates and the way he presided over our sessions, and also to the Secretary, Dr. Camp. (Motion seconded and carried by a rising vote.)

On motion duly made and seconded the House of Delegates adjourned *sine die* at 12:25 P. M.

## Correspondence

### IT SHOWS THE ENCROACHMENT ALL THE TIME OF THE EDUCATIONAL BILL, THE SHEPPARD-TOWNER ACT AND SIMILAR MENACING LEGISLATION

Chicago, Illinois, June 14, 1928.

To the Editor:

Knowing your concern over fraternal government legislation it may be of use to note the attitude of the dental fraternity toward dental hygienists and the urge for Illinois to adopt a law relative thereto.

This will be an act similar in comparison to the osteopathic, chiropractic and other fad bills, including the newer poropaths, in its relation to medicine and dentistry. There are 3,000 dental hygienists in the United States. Of these at least 1,000 do school work. Therefore 1,500,000 children get free care from the dental hygienists at an average salary of \$1,800 per annum, the cost to taxpayers is \$1,800,000 for dental hygienists. If there are hired 1,000 dental men at \$3,000 the cost will be \$3,000,000." J. A. D. Assoc. p. 1162, June 1928.

Many of the dental hygienists are incompetent and should not be trusted to handle those far-reaching focal infections that are so dangerous in the hands of even trained men.

Many of these same protagonists stood up some years ago for the Sheppard-Towner Bill, and that I see is to be urged very strongly again. Many dentists in New York and in Chicago have found out their mistake. Now it is better to prevent laws than to try to stop them after they have been functioning.

New York State raised its qualifications; these hygienists are to be "dental hygiene teachers." J. A. D. A., June, p. 1166. California is pushing very strongly for these dental hygienists. See Bulletin No. 1, American Dental Association conference report, page 26, on voting H. R. Bill 5766. Parker Bill now H. R. 10125. This did not pass—but is up for a new move. The idea that all the scientific work should be in Washington, D. C., is a nice one, indeed, yet some university men are urging this, page 29, *idem* Bull. I, also Bull. Mar., 1927, p. 11. The Bureau of Standards is voted cash to carry on metallurgy for the work for the American Dental Association and now a conjunction of the American Dental Association with the American Medical Association. *Journal American Dental Association*, June, page 1174. This long digress may be of no use to you but it shows the encroachment of paternalism all the time. The Educational Bill and the Sheppard-Towner Act are now the legislative features to watch. If you can spare them I should like several extra copies of the June issue of the ILLINOIS MEDICAL JOURNAL to send away for educational purposes.

VIDA A. LATHAM, M. D., D. D. S.

1644 Morse Avenue.



## MICHIGAN SENDS THANKS FOR AID IN COMPILING MEDICAL HISTORY

Flint, Michigan, May 22, 1928.

Dear Doctor Zeuch:

Please thank the members of the Committee on History of Medical Practice of Illinois for the generous offer in loaning us cuts for our history.

I shall esteem it a great privilege if the cut is borrowed and used to make the customary acknowledgment of the courtesy. Dr. Dempster, editor of the *Journal of the State Medical Society*, mentioned the obligation of our committee in the May number, of which I hope he sent you a copy.

Thank you again for the kodaks. I must try to discover where they will best fit into a medical history.

Father Marquette is mentioned in my article on physicians with the early explorers and adventurers as also in the chapter proposed on Indian manners, medicine, etc.

Father Allonez appears only in the first of the above. Possibly the D. A. R. Martyrer and that of the "Eminence opposite Fort St. Joseph" should be placed in the "early explorers" and the Ludington picture with the "Indian Section." What is your impression?

By the way, more than one "Fort St. Joseph" figures in Michigan history. There was one to which one Dr. Mitchell was exiled.

C. B. BURR, M. D.,  
Chairman.

## ILLINOIS IS HEAD AND SHOULDERS AHEAD OF EVERY STATE IN THE UNION REGARDING PROPER ORGANIZATION

Springfield, Illinois, June 2, 1928.

To the Editor:

I am indeed indebted to you for your kindness in sending me material from the different Journals relative to the Basic Science laws and the Woman's Auxiliary.

Mrs. Neal was very glad to get this latter material because, of course, she wants to be well informed upon what this thing's all about. I am afraid the "steering" committee of the Auxiliary made a mistake in selecting my wife as their next President because I have been rather out-

spoken in my ideas as to the danger of this movement unless it is very carefully managed.

I think it is a fine thing for the physicians' wives to be well informed on professional matters and undoubtedly they have a very excellent chance to mould public opinion in the right direction through their woman's clubs, bridge teas, etc., on such issues as the Sheppard-Towner Bill, State Medicine, etc., if they have made a study of the situation sufficiently to talk about it intelligently. However, we shall have to await the results and see what we shall see.

The bulletin that I am sending out today is based upon facts regarding the funds that the cultists have in Pennsylvania. Dr. Paul Correll, Chairman of the Legislative Committee of the State of Pennsylvania, came to Chicago during the Medical Meeting for the sole purpose of having several hours' conference with me. The Pennsylvania Society had invited me to address their meeting but I found it impossible to do so.

Dr. Correll arrived at 8:30 at the Stevens Hotel in the morning and left on the 5 o'clock train in the afternoon. He says that Illinois is head and shoulders above every state in the union regarding proper organization.

J. R. NEAL, M. D.,  
Chairman Legislative Committee.

## THE SUBSTITUTE FOR THE SHEPPARD- TOWNER ACT MAKES SENTIMENTAL APPEAL TO WOMEN

The Editor of the ILLINOIS MEDICAL JOURNAL takes pleasure in printing this letter from a wide-awake woman in New York who evidently knows how to get in touch with a good source of dissemination for an anti-American practice so popular with certain sections of citizens and legislators.

National Association of Manufacturers of the  
United States of America, 50 Church Street,  
New York City.

June 11, 1928.

Educational Committee,  
Chicago Medical Society,  
Chicago, Illinois.

I note in a weekly bulletin of the New York League of Women that Representative Newton of Minnesota has introduced a bill for maternity aid which differs from the Sheppard-Towner in that it is not a state subsidy bill. It calls for an

appropriation of one million dollars for the Children's Bureau. The League will probably push this at the next session. I should be interested in knowing what the stand of your Society will be if it has been determined.

\*Most Cordially,

(Signed) MARGUERITE BENSON,  
Director Woman's Bureau.

NOTE: Comment on this Bill elsewhere in this issue.

#### INTERNATIONAL MEDICAL POST-GRADUATE COURSE IN BERLIN

International Medical Postgraduate Courses in Berlin are arranged with the help of the medical faculty of the University by the Lecturers' Association for medical continuation courses and the Kaiserin Friedrich-Haus. Part of the courses take place permanently, part only in October, 1928.

##### I. Permanent Courses.

- a. Courses during 2 to 4 weeks.
- b. Courses as guest-assistants in clinics, hospitals and laboratories during 2 to 3 months and longer for gentlemen desiring to do practical work under systematic supervision.

##### II. Courses During October, 1928.

- a. General course on "Survey of the progresses on the total medical field" with special reference to the pulmonary diseases (1-13 October, 1928).
- b. Special Course for Nose, Throat and Ear Specialists (1-20 October, 1928.)
- c. Post-graduate Course on Pediatrics (15-27 October, 1928).
- d. Post-graduate Course on "new methods on Diagnosis and Therapie" with practical studies and exercises, in bedrooms and laboratories of the City-Hospital Friedrichshain.
- e. Single courses on all special fields of medical science including practical work.

The courses are held in German, but numerous professors are able to lecture in the English, French and Spanish language.

The office assists in procuring suitable lodgings, gives information re costs of stay, and arranges visits to clinics at operations, etc.

The office quarters are in the Kaiserin Friedrich-Haus, Berlin NW 6, Luisenplatz 2-4.

#### MALODOROUS

It was in a cheap vaudeville house. An oriental act had just been concluded and incense filled the house.

"Usher," complained a pompous man in an aisle seat, "I smell punk."

"That's all right," whispered the usher, confidentially, "just sit where you are and I won't put any one near you."—*A. Ph. Spokesman.*

## Original Articles

### CANCER OF THE LARYNX\*

R. C. LYNCH, M. D.

NEW ORLEANS, LA.

Mr. President and Gentlemen of The Illinois State Medical Society, permit me to thank you sincerely for the honor you have conferred on me by the invitation to address you on this occasion and in this capacity. It is odd, I assure you, for one whose limits in work and field is narrowed as are mine, to think that I may talk of that which is of interest to all of you. Some of our problems are the same as some of yours, and cancer, that dreaded nightmare is common to us all.

My ideas are neither radical nor are they new, and I have waited long before I felt that I could talk with any degree of assurance, upon this subject, which has been uppermost in my work from its very beginning. Certain fundamental facts, or at least they still appear as such, have acted as a basis for my work and as a means of observation and criticism that I may best adapt myself to the problems as they were presented and attempt their solution, for the best interests of my patients.

Since this work is entirely clinical, and my statements to you are based entirely on these observations, I must ask your indulgence if they are not correlated with quotations from others or accompanied by much laboratory experimentation. On the other hand we are striving to bring the subject to a point where the patient can be told when and what to expect, and this may in a way refresh some and help others.

Cancer is cellular lawlessness. An epithelial cell breaks the law by taking on the power of proliferation and of transmitting this same power to new cells produced, and this so-called stimulation to growth proceeds from the original focus. Normal law abiding epithelial cells do not have these qualifications. If only we could tell clinically for what reason, in whom, under what circumstances and when these cells would take on this power, our solution of the whole problem would be simple indeed. I have always felt that the one tangible underlying factor

\*Oration in Surgery delivered before the 78th Annual Meeting in Chicago, May 9, 1928.



which induces these cells to take on their lawless nature is irritation, usually low-grade, long continued, not necessarily of bacterial or toxic origin and yet many times associated with these as an underlying cause.

In the group of cases where the lesion was first observed wholly within the laryngeal box, the most frequent irritating factor was an almost unwarranted abuse of the voice. This is to be expected in professional voice users, singers, public speakers, auctioneers, school teachers, preachers, etc. To this class belong the occupational group who either must talk against unusual noise, machinery, metal workers, trains, autos, or who talk more or less continuously over telephones, or whose work is amidst dusty or otherwise irritating atmospheres; then there is the group who not only talk all the time, but talk at high pitch, who shout when they whisper and yell when they sing. Finally there is the coughing group; this symptom they manifest on all occasions and with the least provocation, whether it be associated with bacterial infection either secondary to a sinus infection or the result of an asthmatic state of long standing or associated with a low-grade tonsillar inflammation.

Under these headings most of my cases fall, though syphilis and tuberculosis are weeded out in every instance; the occurrence of cancer on either of these bases represent isolated instances—once on a fibroid tubercular base at least histologically considered so and twice with a background of syphilis. Strange as it seems in this group, neither tobacco nor alcohol seemed to play a predominant part. About an equal number having never at any time used either type of irritant, while the remainder used both, some moderately and some to excess.

Finally I have never seen a case of cancer in the laryngeal box in a patient who has worn a tracheotomy tube for numbers of years, nor an intubation tube over a long period of time; either agent would seem to be ideal in the production of that type of irritation which would be expected to start this cellular lawlessness program. One instance in particular is a lady whose larynx was practically destroyed by massive radium dosage both extra and intra laryngeally applied. After three years of what is apparently a cure she comes under my care for the consequent stenosis. By prolonged intubation ten months,

plus other uninteresting manipulations an airway is re-established without the least manifestation of a return of epithelial proliferation and new growth. Though it was with no little fear that we tread upon what should have been, most dangerous ground.

On the other hand, in the extrinsic group, hypharynx, base of tongue and upper esophagus, alcohol, tobacco, hot fluids, peppery foods, seemed the outstanding irritants and it was rare to find a lesion in these locations with a perfect set of teeth, kept in good order. In practically every record there is noted dental caries that is fairly well advanced.

I have long felt that the time honored clinical classification of cancer of the larynx into intrinsic and extrinsic, was a mistake and find much comfort in dividing the intrinsic cancer under three separate headings depending upon the pathology and considering the extrinsic group as a different proposition, pathologically and clinically.

In the intrinsic group, namely, that manifestation of cancer which is entirely limited within the cartilaginous box, there are three separate stages to be observed. Since we deal almost wholly with either squamous cell or basal cell carcinoma there is a stage in the life history of these two varieties of cancer where the manifestation of cell proliferation and new growth is limited to the layers of cells lying above the basilar membrane and can be considered clinically as practically a surface lesion, in the basal cell group. Especially this stage may exist over many months, yes even years as is evident not only from my own records but of many instances in the literature. The squamous cell group on the contrary are usually more progressive but even they seem to linger longer in this first period of their development, taking in proportion some time to gather that power which later if unmolested will proliferate as you know to most remote regions.

It has been my privilege to see twenty-four cases of this group, and as you rightly suppose these cases have not only been studied by laryngeal mirror but under suspension as well and I would like to say also under microscopic magnification with either a Zeiss inocular prism loupe capable of magnifying ten times or the loupe of Moulini which magnifies twenty times. By means

of a small lamp placed under the cord I have not only studied these growths by direct light but by transmitted light as well and it is surprising how much information one may gather from this means of observation. As you know it is the rule to consider the squamous cell tumor as being characterized by its process of keratinization, while the basal cell tumor rarely shows this manifestation. One may conclude from all the information to be gathered that the little tumor is of basal cell type because no break in the surface is seen, because of no color change, because of the long history and the apparent indolence of the growth, yet under suspension with palpation and magnification a definite keratosis may be observed and since this is naturally linked with a probably more rapid growth, induces interference immediately as every minute is precious after this is once established. Even if no break in the surface occurs, when the study brings forth the fact of epithelial proliferation and new growth, operative interference is indicated.

Clinically such a tumor, limited only to the cells above the basilar layer, is usually no larger than a millet seed and rarely larger than a grain of rice; the only symptom is the slightest change in the voice tone, hardly enough to be called hoarse; there is no lagging or fixation of the cord.

These cases have been observed principally in the professional voice users, or have been brought for examination because of friendly advice. This is the first stage; the operative procedure is dissection which extends beneath the basilar membrane, usually taking one-third of the cord substance with a free margin of uninvolved tissue on all sides.

Remembering that the surgery of cancer places wide removal first, the least handling of the tumor mass next, and function last, as a matter of fact the ultimate results are so far 95% without recurrence over a period of from two to sixteen years and the function has been re-established in nearly every instance to clear vocal tone. A few have resumed their former occupation, singing, preaching and the like.

All of these operations have been done under suspension laryngoscopy, the tumor occupied the middle third of the cord and I feel that by preserving the continuity of the cartilagenous box more is offered to the patient than by thyrotomy

wherein the box is opened from without. The diagnosis, of course, is verified by microscope, but in this group the specimen to be removed usually represents the entire operation and confirmation of pre-operative diagnosis follows the completion of the surgical interference.

The second group of cases is represented by an extension of the first to a point where cell proliferation and multiplication are manifest and have broken through the basilar membrane as is evidenced by marginal induration, size of tumor and clinically by lagging of the vocal cord but without fixation, which means that cell proliferation and growth have extended sufficiently at least to involve the muscle sheath if not actually penetrating the fibers themselves—but which as yet has not reached the perichondrium or the joint—and a more or less hoarse voice since the good cord talks against the bad cord and its vibrations cannot be synchronous. The squamous cell type is dirty white, or at least there is a marked difference in color. Keratinization is macroscopically apparent even to a break in the surface while the basal cell has always seemed to be covered by a membrane of nearly corresponding color, even though it be apparently more vascular and even roughened. These differences are of interest in association with one's imagination of what a microscopic slide would look like but amounts to little from a clinical standpoint since they are both subject to the same rules of interference surgically and the sooner the better. Here the magnifying loupe is of great importance, since it may reveal either directly or indirectly proliferative extension beyond that which is seen by the naked eye, and may even, as has been my experience, change the operative interference from dissection under suspension to total removal of the larynx. Being guided by the fact that if there is normal cord anteriorly and the extension has not reached the vocal process posteriorly, and I can see no subglottic proliferation below the cord when it is lifted out of the way. This case can be done by suspension and dissection through the mouth without opening the cartilagenous box with 68% chances of being well without recurrence, the convalescence being established with an aphonic voice in 40% of the cases operated on. The number now is 98.

The technique includes the removal wide of the mark even to a dissection that delivers the



growth on a cartilaginous plate; this entails always the removal of at least the vocal process of the arytenoid, if not half or even two-thirds of this cartilage, and extends the dissection anteriorly to beyond the anterior commissure. Four cases have thus far successfully healed and are without recurrence after electro-coagulation and I am in favor of this technique in the selected cases—sealing the wound after the dissection with the actual cautery has been a routine practice for a number of years. It is this group which gives about the same results by thyrotomy. I am certain for the greater majority of operators, thyrotomy is more practical than suspension and I do not hesitate to resort to the method myself if I feel I can do the best work this way. I submit you my records, however, that in my own hands the suspension and dissection offers the patient the advantage of not opening the box and if recurrence does take place a laryngectomy will still hold for them a proportionally better prognosis than if thyrotomy had been done.

The third group represents the border line proposition in each direction, namely those extensions which have just been described as belonging to Class 2, wherein the extension is up to or beyond the limits as laid down or where the extension has reached a stage to make the possibility of an extrinsic extension probable and thus convert the case to the truly extrinsic type. It is here also that one finds the more atypical manifestations and consequent confounding of the diagnosis with lues, tuberculosis and other possible lesions associated with hyperplasia or reactions of inflammation. Each case should be submitted to searching physical examination; the incidence of diabetes is very important, likewise the functional capacity of the kidney—great care for any metastasis already existing.

In 1923 I reported four cases of intrinsic carcinoma of the larynx with secondary metastasis in the lung. While the possibility of multiple independent carcinoma is not new and I have no way of connecting the truly intrinsic laryngeal cancer with a lung metastasis, and I am called upon to accept the x-ray diagnosis plus the physical findings as exhibited by my colleague trained in chest examinations, with this to back me up, I now have six such instances in my col-

lection, and that is enough to at least warn you of this relation.

When the tumor mass is not syphilitic nor tubercular and most probably cancer with fixation of one cord, which means that whatever else is happening, one thing is certain and that is perichondrium and probably joint are involved in the proliferation and new growth or when both cords are involved back to the vocal process which is not an unusual occurrence, no operative interference offers the same degree of success as does a laryngectomy. Thyrotomy is a mistake, hemi-laryngectomy in cases where this might be suitable is attended with such high mortality, in exchange for neither air-way or voice in many instances, at least in my hands, that the exchange for some function is not worth the risk. I have never done the "Laryngectomie Economique" of Sebileau who saves the posterior half of the larynx with anterior involvement and feel here as I do about hemi-laryngectomy.

The relation of the patient to the operator assumes a rather different role in that, if consent is given for operation then the operator must have "carte blanche" to do as he sees fit. Here too am I heartily in favor of biopsy to be done, however only at the time set for the operation and as part practically of the operation. It is such a comfort to have a rush section made and have the diagnosis confirmed. Here again under suspension a piece of tissue can be cut to include tumor and margin as well. Five minutes only are required in a good laboratory for a report and this time is always well spent. However, in cases of doubt, the clinical evidences outweigh the microscope, though conditions which you can picture may justify delay. I have thus far no instance in my records where metastasis or recurrence at the site of operation could be ascribed to the biopsy and twice at least it saved a larynx and one of these probably a life. Biopsy which is done under unfavorable circumstances and which waits for two weeks or a longer period of time for operation, might well be blamed for growth stimulation or maybe even metastasis.

I am not wholly in accord with present day ideas on the conversion of twelve or fourteen teeth to an edentulous mouth; this dental surgery is not without its shock even where no cancer exists in airway or other locations. I advise

this step with the greatest of caution. Only in extreme cases should all the teeth be removed; the mouth can be rendered clean and kept so with the least amount of pain and discomfort in a very short time and permit the major interference on the larynx at a much earlier time and on a better physical foundation.

My records again show no undue suppuration, or sloughing of wound from this cause, though you may be sure the mouth receives its careful toilet before and after operation.

All operations are done under gas-oxygen-ether anesthesia by *via naturales* and I have no instance to record thus far where the result was influenced by this form of anesthetic. The incision is "T" shape, it affords the best exposure. The trachea is skinned clean and when this is done, is cut through, held out of the wound and a large rubber tube to fill its lumen is pinned into the trachea. The tube is long enough to reach the head of the table where the anesthetist has full control over free respiration and anesthetic as well. Dissection is from below upward keeping clear of the larynx, removing it with not only its external perichondrium intact but the extrinsic muscles as well. Epiglottis and greater thyroid horns are also removed; neither do any good and may form a continuity of surface for return. Closure of pharyngeal defect is usually by purse string. All methods recommended have been tried; none seem perfect; 90% at least leak more or less, which means healing by secondary union. Only 2%, however, need plastics; this, of course, does not include the group of extrinsic extensions which is a different proposition. Only closure of soft parts and skin is around tracheal stump which not only is anchored by mattress sutures, but the margins are closely sutured to the skin, horse hair or dermal being used.

Skin closure at junction of horizontal and vertical line of the "T" angles of the horizontal bar and no sutures in vertical bar, light benzoin gauze pack fills the wound. Dressing contrary to usual experience is necessary only once a day for five days, then if fistula develops demands more frequent care. A jute tube is passed into stomach through the nose at time of operation and is maintained until esophagus is healed. Soda bicarb. and glucose solutions at first, then

caloric diet maintains weight, nutrition and quenches thirst.

One hundred twenty-eight operations to date, one death from heart block on the second day, no pneumonia, no mediastinitis, no general sepsis up to this time. The earliest recurrence was ten months—the oldest case alive and without recurrence eighteen years, the percentage of well without recurrence is 62. I much prefer this description than to call them cured. One sometimes wonders if cancer is ever cured. No rule is yet broad enough to include all the published reports, therefore to speak of them as well without recurrence is at least truthful and I find keeps my cases in closer touch, that I may follow up their end results. The moving picture attempts to show the details are not perfect, yet carries for you a visual picture of the work.

632 Maison Blanche Blvd.

## TREATMENT OF KIDNEY INFECTIONS\*

DANIEL N. EISENDRATH, A.B., M.D.

CHICAGO

Although there have been no radical changes in this direction, much progress has been made as the result of laboratory studies, improved diagnostic methods and the use of the inlying ureteral catheter during the past five years. We have at our disposal at present the following methods, which will be taken up in the order named:

1. The use of antiseptics.
2. Drugs to change the reaction of the urine.
3. The use of the inlying catheter and pelvic lavage.
4. Elimination of foci elsewhere in the body.
5. The treatment of any condition which favors stasis.
6. Operative measures.

1. *The use of antiseptics.*—*Intravenous administration:* There are only two drugs which need be considered under this heading:

- (a) Hexamethylenamin (urotropin).
- (b) Mercurochrome.

Of these the first named is our choice for cases of severe infection. We inject intravenously once in twenty-four hours the contents of an ampoule<sup>1</sup>

\*From the Urologic Service of Michael Reese Hospital. Read at the April 4, 1928, meeting of the Chicago Medical Society and illustrated by slides.

1. Ampoules containing 15 and 31 grains respectively can be purchased.



containing 31 grains. Care must be taken to discontinue the drug as soon as there is any complaint of burning on urination or tenesmus. This is equally true when the drug is given by mouth.

The majority of urologists do not share the opinion of Young as to the efficacy of mercurochrome in severe renal infections when given intravenously. Its use is in many cases followed by very severe reactions similar to those observed after the administration of foreign proteins. The conclusion is being gradually reached that its action is not so much a sterilizing one, i. e. by killing the organisms in the blood stream as of stimulating, just as any other foreign substance administered intravenously, a defensive reaction on the part of the body. More experience is necessary before it can be considered as a permanent addition to our resources in the treatment of renal infections.

*Oral administration of antiseptics.*—Here we have two drugs at our disposal, viz., hexamethylenamin and hexylresorcinol. The former is still most frequently employed. Recent studies have shown that it can act equally well in an alkaline as in an acid medium. This greatly simplifies its use, since one can give it in conjunction with large doses of alkalies so there is also the benefit of the latter's action in rendering the urine a less favorable medium for the growth of certain strains of the bacillus coli, as we shall see later.

It is rarely necessary to give more than thirty grains daily of this drug and one should bear in mind that it is apt to cause, if given in excessive doses, severe burning or even tenesmus on urination and occasionally a hematuria of transitory character. We have not found hexylresorcinol to possess any advantages over hexamethylenamin.

2. *Drugs to change the reaction of the urine.* The bacillus coli is responsible for about seventy per cent. of all kidney infections. Of the remaining thirty per cent. the ordinary pyogenic cocci and various strains of the proteus group of bacteria are responsible for the majority of cases. The gonococcus and typhoid bacillus is rarely found.

Of all of these organisms, the bacillus coli is more susceptible to changes in the reaction of the urine than the more resistant staphylococci, streptococci or members of the proteus group.

Seventy-two strains of the bacillus coli are found in kidney infections. Some of these grow best on an acid, others on an alkaline medium.

Helmholz has shown that it is far easier to reach a concentration sufficient to inhibit the growth of the bacillus coli on the alkaline than on the acid side. This explains why most reliance should be placed on large doses of alkalies, although it is advisable in protracted<sup>2</sup> cases to give drugs which will alkalinize it. The drug which best serves the latter purpose is potassium citrate in doses of thirty to sixty grains a day. The most efficient acidifiers are acid sodium phosphate, fifteen grains, ammonium chloride, ten grains or sodium benzoate ten grains, all four times daily.

By this alternate administration of alkalizers and acidifiers, one can hope to inhibit strains of the bacillus coli which grow best on alkaline and vice versa on acid mediums. Whether the drinking of large quantities of alkaline waters or of ordinary liquids is of much value is open to question. Helmholz was unable to find that giving fluids in large quantities increased the elimination of bacteria in animals. We feel that clinically at least it is advisable to continue the practice of encouraging the drinking of alkaline or plain water freely.

3. *The use of the inlying ureteral catheter and lavage of the renal pelvis.* The second of these methods is familiar to all, having been employed in the treatment of both acute and chronic renal infections for a long time. It is ideal for ambulatory patients suffering from chronic pyelonephritis. The drug which is still the most popular for lavage of the renal pelvis is nitrate of silver in strengths varying from 1 to 500 to 1 to 100. Mercurochrome one per cent., acriflavin 1 to 1000, aluminum acetate three per cent. are still employed by many urologists. The use of the inlying ureteral catheter is in our opinion one of the distinct advances in the treatment of both acute and chronic renal infections. We have recently<sup>3</sup> reported our own results and those of others with this method. Additional experience since the publication of this paper only confirms our view that it is the ideal method of drainage, by nonoperative means, of one or both infected kidneys both in adults and children. Attention must again be called to the fact that if there is no marked drop in temperature and a recession of the symptoms of generalized toxemia within seventy-two hours, that

2. We usually give alkalies for a week and then acidifiers for a similar period.

3. Jour. Amer. Med. Assn., 89, 2170, December 24, 1927.

one must suspect such an involvement of the renal parenchyma or the presence of a perinephritic abscess as to render further nonoperative measures inadvisable. We employ the ordinary opaque (x-ray) catheter because its coating is more durable than that of the plain (non-opaque) ureteral catheter. One catheter is inserted into the renal pelvis of one or both sides depending upon whether the infection is uni- or bilateral. Even if the catheter becomes blocked, we do not withdraw it because there is ample drainage alongside of the catheter. We do not hesitate to leave the catheters in place for as long a period as two to three weeks in cases of chronic infections. As a method of drainage for cases of acute pyelonephritis whether in adults or children, or during pregnancy or the puerperium, we feel confident that the method is a most valuable addition to our therapeutic resources. In cases of infection of long standing, especially if operative measures are indicated and the patient is not a good risk, the use of the inlying ureteral catheters is to be highly recommended. Many a poor risk can be changed to a comparatively good one if one is patient.

4. *The elimination of foci of infection elsewhere in the body.* Bacteria reach the kidney in three ways:

(a) By way of the blood stream from foci outside of the urinary tract proper.

(b) By way of the ureter either by obstruction of its lumen or by regurgitation of the contents of the bladder (reflux).

(c) By way of the lymphatics in and around the ureteral wall especially as a result of infection of the internal genitalia of the female or of the prostate and seminal vesicles in the male.

That foci in the sinuses (frontal, etc.), teeth, tonsils, colon, etc., bear a direct relation to kidney and ureteral infections can no longer be doubted. One of our first tasks, therefore, in cases of chronic pyelonephritis and ureteral stricture at the present time, is to have a thorough examination made of the teeth, tonsils, sinuses, alimentary tract, etc., made and have these foci eliminated as far as possible.

Unfortunately the removal of these foci is not always followed by improvement of the urinary tract localization because the latter has obtained too strong a foothold by the time it is first seen by the urologist.

5. *The treatment of any condition which*

*favors stasis.* The complete examination of a patient, i. e., a urologic study should be postponed until subsidence of the acute symptoms.

Conditions<sup>4</sup> which favor kidney infections can be divided into two groups:

*Mechanical causes:*

(a) Urethral conditions:

Congenital strictures and valve formations. Acquired (gonorrheal and traumatic) strictures.

(b) Vesical conditions:

Calculi, tumors and diverticula. The various types of bladder neck obstructions as observed in adults and children.<sup>5</sup>

(c) Ureteral and periureteral conditions:

Strictures of the ureter of acquired and traumatic origin.

Ureteral anomalies (congenital strictures, kinks, twists, faulty origin and ending, valve formation, etc.)

Ureteral calculi and tumors.

Seminal vesiculitis involving wall of ureter.

Cancer of uterus, rectum, prostate, etc., compressing ureter.

(d) Renal conditions:

Calculi or tumors blocking the outlet of the renal pelvis.

Accessory polar vessels to lower pole of kidney blocking ureter.

Anomalies of the renal pelvis.

Abnormal mobility of the kidney (dropped kidney).

*Adynamic causes (muscular insufficiency):*

(a) Congenital atony of the vesical, ureteral and renal pelvic musculature.

(b) Atony of neurogenic origin as seen in renal infections complicating spina bifida, tabes, anterior poliomyelitis, cerebrospinal syphilis or injuries of the spinal cord.

(c) Senile atony.

At first glance it would seem to be a formidable task to eliminate these various conditions which not only favor but keep up infection of the kidneys. With the aid of the diagnostic methods at the disposal of the urologist, especially pyelography, this process of elimination is not as difficult as it would seem to be for those

4. It will be impossible in this paper to take up the diagnosis of these various conditions in any detail.

5. Beer and Hyman have directed attention to the fact that contracture of the vesical neck and even diverticula of the bladder are not uncommon in infancy and childhood.



who are unfamiliar with modern urologic diagnostic methods.

6. *Operative measures:* If a diagnosis of localization of the infection in one kidney has been made and the symptoms are not relieved by nonoperative measures, one should not delay in exposing the kidney.

If a calculus occludes the ureter or the outlet of the renal pelvis one should be as conservative as possible, if urologic study revealed the fact that (a) the kidney still has good function and (b) if the opposite organ is not able to do the work of both, i. e., is in poor condition. If inspection of the exposed cortex reveals multiple minute hemorrhagic areas or innumerable small pus foci the question arises whether or not nephrectomy should be performed. One of the greatest advances in our studies of renal infection has been that the kidney has remarkable power of combating infection if ample drainage has been provided. We have had an opportunity to observe this recently in a case of bilateral renal calculi. When first seen there was a relatively large calculus completely blocking the right kidney as shown by our inability to inject the pyelographic medium and the failure to obtain scarcely any dye (indigocarmin) elimination on this side. The left kidney was the seat of a small calculus and of relatively advanced pyelectasis. It was our plan to remove the right sided calculus first so as to improve the function on this side and four weeks later to remove the left sided calculus. Unfortunately a bilateral thrombophlebitis of both lower extremities complicated the convalescence from the right sided pyelolithotomy, so that further operative interference (on the left side) had to be postponed.

The patient was not seen again for nearly four months. At this time she was suffering from an acute complete block of her left kidney with marked symptoms of urosepsis. Plain radiography revealed the fact that the left sided calculus had become firmly impacted at the outlet of the renal pelvis and had increased considerably in size. The right kidney was found to have improved greatly in function but not enough to warrant removal of the left kidney, so that it would be forced to do the work of both kidneys. After removal of the left sided calculus through a pyelotomy incision, a large amount of pus escaped as if under tension from the renal pelvis.

The entire upper third of this (left) kidney was found to be the seat of an advanced suppurative pyelonephritis with numerous characteristic pin point abscesses scattered over this portion as well as over the remainder of the cortex. In view of the poor function of the opposite (right) kidney, it was felt that every effort should be made to be conservative. The cortical abscesses were punctured and a large drainage tube inserted into the renal pelvis. During the first four days of the postoperative period the recurrent chills and high temperature made us doubt whether our conservatism had not been inadvisable. The further course, however, has shown that the tissues of an infected kidney have remarkable phagocytic and immunizing properties if adequate drainage is provided. The urine from this (left) side is almost clear, three months after operation, and the continued poor function and persistent infection of the opposite (right) kidney confirms the opinion that it would have been unable to do the work of both sides had a left nephrectomy been performed.

That one should attempt to be conservative in every case of hyperacute and acute renal infection is hazardous. I would not like to leave the impression that this should be done. If the gross appearance of a kidney impresses the operator that nephrectomy is the only procedure to save the life of the patient, one should not hesitate to remove the kidney unless the opposite one is functionless, or is congenitally absent or has been previously removed. What I wish to convey, however, is that conservatism in kidney surgery is being impressed upon us more and more as our experience increases.

In chronic kidney infections we have also learned to be conservative. Many an apparently hopeless kidney can be conserved if adequate drainage is provided for by removal of obstructions, correction of a ptosis, plastic operations such as reimplantation of the ureter, etc. Removal of a badly infected kidney, with symptoms such as persistent pyuria or of chronic urosepsis is indicated:

(a) If an impermeable ureteral stricture is present.

(b) If functional tests, aspiration and pyelography reveal an extreme degree of infected hydronephrosis or a pyonephrosis.

(c) If there is a large single coral or multiple

calculi accompanied by almost complete cessation of function of the corresponding kidney.

(d) If an advanced degree of atrophic pyelonephritis is present with marked decrease of function and conservative measures have been of no avail.

104 S. Michigan Ave.

## RADIUM AND RADON IN THE TREATMENT OF EPITHELIOMA OF THE LIP\*

FRANK EDWARD SIMPSON, M.D.

Adjunct Clinical Professor of Dermatology, Northwestern University Medical School.

AND

ROY EMMERT FLESHER, M.D.

Since 1919, radium, in our hands, has been

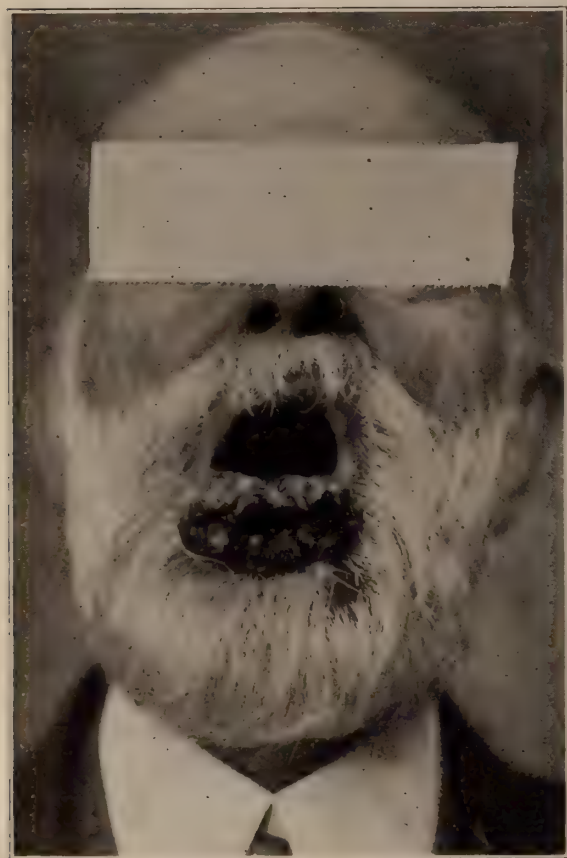


Fig. 1—Before Treatment

entirely replaced by radon (radium emanation) in the treatment of carcinoma.

Radon is a radioactive gas which is extracted

from an aqueous solution of radium chloride by a special apparatus.

In the solution used for this purpose, there should be not less than 1,500 milligrams of metallic radium.



Fig. 2—After Treatment

This Patient Recovered Temporarily, But Subsequently Died of Metastasis

One of the great advantages of radon over radium is that a large quantity of radon, such as 1,000 or more millicuries, may be concentrated over a lesion measuring a fraction of an inch in diameter. A millicurie is the equivalent of a milligram of metallic radium.

### *Diagnosis of Epithelioma of the Lip*

In the examination of suspected lip cancer, all squeezing and manipulation of the lesion should be carefully avoided.

The diagnosis can usually be made by inspection alone.

While in cases of intra-oral cancer we invariably remove a small piece of tissue from the edge of the lesion for microscopic examination, we do not ordinarily do this in lip cancer.

\*Read before the Section on Radiology, Illinois State Medical Society, Moline, Illinois, June 1, 1927.



The diagnosis is clinical, therefore, in practically all of the cases reported.

All of the cases were seen, however, by 2 or more observers experienced in the diagnosis of cancer.

#### *Method of Treating the Lip Lesion*

We have undertaken the treatment of practically all cases that have applied to us, although a few cases were so hopelessly advanced as to preclude the probability of much help being given.

In cases we have tried to cure rather than palliate, we have used the following technic, although our method of procedure has naturally varied from time to time.

At a distance of 2 millimeters, 500 millicuries of radon screened with 2 mm. of silver may be

to 2 or more aspects of the lip, care must be taken that the irradiations do not overlap.

We are opposed to the implantation of radium or radon tubes in ordinary cases of lip cancer.

Large doses applied to the surface of the lesion

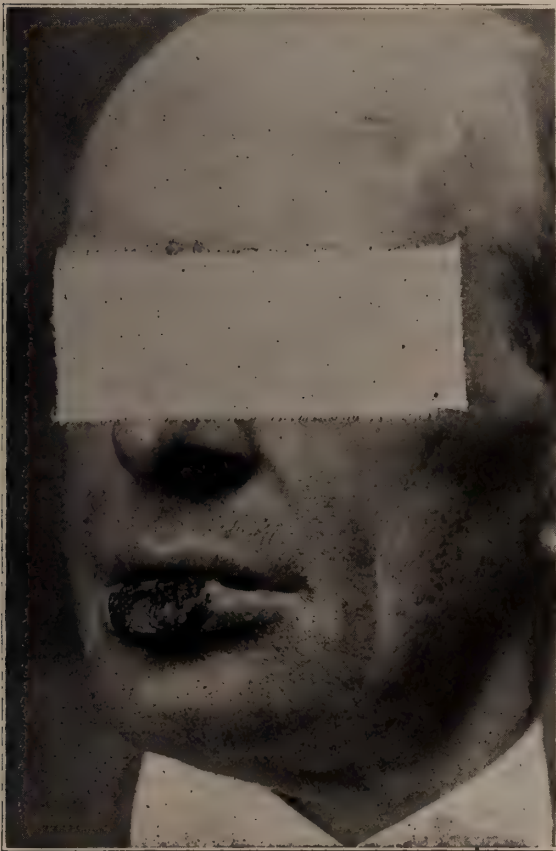


Fig. 3—Before Treatment

applied for 30 minutes to a lesion measuring  $1\frac{1}{2}$  or 2 cm. in diameter.

At a distance of 1 centimeter, 1,000 millicuries may be applied for  $1\frac{1}{2}$  hours to a lesion measuring  $1\frac{1}{2}$  or 2 cm. in diameter.

In the case of lesions requiring an application



Fig. 4—After Treatment

This Patient Remained Well  $3\frac{1}{2}$  Years; a Recurrence Was Again Treated With Apparent Recovery

for short periods are greatly to be preferred to small doses used for long periods.

A number of hopeless cases have come under our observation, giving a history of inadequate radium treatment.

#### *Method of Treating the Lymph Nodes of the Neck*

In patients with evidences of involvement of the lymph nodes of the neck, the prognosis must be guarded.

In Broders'<sup>1</sup> series of 516 lip cancers, reported from the Mayo Clinic, the lymph nodes were operated on in 449 cases.

Metastases were found in 105 cases.

None of Broders' cases in which more than one group of glands was involved and no case in which the cervical or submental glands were affected was known to be alive at the time of the report.

The 10 patients with metastases in whom good results were reported were cases in which the submaxillary nodes on one side only were involved.

In view of this report, would it not be well to consider all cases with glandular involvement inoperable, except those with only one submaxillary gland affected?

If lymph nodes are to be irradiated, not less than 1,000 mc. should be used.

At a distance of 3 cm., 7,000 millicurie hours may be given to an area of 16 sq. cm.

We believe that lymph nodes should seldom, if ever, be implanted with radium or radon tubes or needles.

#### REPORT OF CASES

Between January 1, 1920, and January 1, 1924, we treated with radon 74 primary cases of epithelioma of the lower lip. Only a few of the main items of interest will be touched upon at this time.

The ages varied from 34 to 76 years, the average age being 56.3 years.

There were 68 males and 6 females.

The duration of the lip lesions varied from 2 months to 2 years, the average duration being 7.6 months.

In 12 patients (16.3%), enlarged lymph nodes that we regarded as carcinomatous were present.

In 62 patients (83.7%) no lymph nodes were found.

From a surgical standpoint, 6 patients were considered inoperable.

#### RESULTS

Of the 74 cases, 57 (77%) have been carefully traced.

47 (63.5%) of these have been clinically well for from 3½ to 7 years. The average duration of apparent cure is 4 years and 8 months.

3 cases in this group had palpable lymph nodes at the time of treatment.

10 (17.5%) of the 57 traced patients have died. The duration of life in those who died after treatment was started varied from 6 to 14 months, the average duration being 9 months.

9 of the 10 patients who died had palpable lymph nodes when treatment was begun.

We believe it is safe to conclude that 75% of

patients without nodes will remain well for the 3 year period.

Of patients with nodes, 10% will remain well for the 3 year period. These figures are only approximate and may well be subject to revision as experience increases.

#### CONCLUSIONS

The last Radium Report of the Memorial Hospital,<sup>2</sup> New York City, states that the primary lesion in epithelioma of the lip should be managed entirely by the use of radium.

We can subscribe to this opinion provided a sufficient quantity of radon, i. e., from 500 to 1,000 more millicuries, is available.

The glands of the neck, whether palpable or not, should practically always be irradiated.

If only one submaxillary gland is involved, it may be excised.

If other groups of lymph nodes are affected, irradiation is preferable to operation.

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#### USES AND MISUSES IN RADIUM\*

C. W. HANFORD, M.D.

CHICAGO

Consulting Radium Therapist Cook County and Illinois Central Hospital.

I think it is generally conceded that there has been no more valuable remedy discovered during the century than radium, important not only because of its decisive action on diseased tissue, but also because due to its discovery our atomic theory was remodeled.

The report of its discovery was soon followed by reports from Paris of miraculous cures of cancer from its use, and many of us were optimistic enough to believe that at last a cure for cancer was at our doors. It was perhaps fortunate that the first uses of radium was in the superficial type of malignancy, where the results were spectacularly prompt. Had it been employed first in the deep infiltrating cancers, the results would not have been as satisfactory, and we would have felt that another bubble had been exploded. Even

\*Read before the Section on Radiology, Illinois State Medical Society, Moline, Illinois, June 1, 1927.



so, I believe that time would have worked out its value and placed it in its proper position.

For radium has a definite place in the fight against cancer, even though it is not the panacea we had hoped for.

In order to witness its peculiar and powerful benign influence against cancer growths, it becomes necessary to grade our malignancies carefully. A cancer that has existed over periods of months or in some cases years, is not a satisfactory type to attempt to cure with radium. If we are to expect a salubrious action from radium, the cancer must be of recent discovery, and must be distinctly local in its area. For once it has extended to adjacent tissues and glands, it ceases to be a local affair, which all cancers are at first, and becomes a systemic affair.

It must be understood that the action of radium is purely local. That the rays destructive to the cancer cell do not extend in their destruction, in a radius of more than  $2\frac{1}{2}$  inches. Therefore our area must be circumscribed.

Probably it is because of the circumscribed character of cancer of the cervix uteri, and the ease of applying radium so that the whole invaded territory is evenly radiated, that we have such signally good results in cancer in this portion of the anatomy.

Given a case of carcinoma of the cervix uteri, that is confined to the cervix and does not involve the vaginal wall, and where the uterus is not fixed, heavy irradiation with radium will bring about a definite cure in a large percentage of cases. Our rules for dosage were at first empirical, dating from the time when Bumm in Germany used 50 mgms. in a continuous irradiation for a week in a group of 13 cases. None of these cases died from carcinoma; in fact, section from the tissue showed complete absence of cancer cells, but they all died from the effects of the radium. Since then we have learned that there is a safe amount to use, but at the same time of strength sufficient to cause the death of the cancer cells. There was a time when it was customary to allow a week between irradiations. This would string out the reaction period, and was exhausting to the patient. This was wrong therapy.

If more than one application of radium is applied, the interval between the first and second application should not be more than two days.

I am strongly of the belief, which I share with John G. Clark of Philadelphia, that it is the first dose that works the destruction to the cancer cell, and that frequently repetitions are valueless. Of course the initial dose must be large enough to combat the trouble. At least 3,000 mgmhrs. and possibly 4,000 mgmhrs. Regarding this dosage, it may be necessary to lessen it if the patient is in a very depleted condition, with a low red cell count and low hemoglobin index. If there is a marked rise in temperature, it is advisable to wait for the second application till the temperature is normal or nearly so.

In the course of six weeks the cervix should be clean and pink, and as I said before this condition will continue in a goodly number of cases. But there are cases where after the lapse of six months or a year, sometimes a longer period, there is a recurrence. Now in these recurrences after radium, I do not consider it good treatment to again apply radium, for the reason that about all we will succeed in doing will be to produce a necrosis and cause the patient more discomfort than if left alone. It is in these cases of recurrence that electric coagulation offers some help and sometimes a healing will take place after its application.

It has long been known that recurrent carcinoma, either after surgical or radium treatments, are much more difficult to heal than a primary carcinoma. This is due to the fact that a primary carcinoma is much more radio sensitive than an irradiated growth.

The recurrences after radium are much more difficult to heal than recurrences following surgery.

Of the superficial malignancies, one of the most easily cured is cancer of the lower lip. And I wish to say a word regarding the manner of application. The radium with its proper screening is brought into direct contact with the growth, so that there is even distribution of the rays throughout the involved area. And if given a dose sufficiently large, one treatment should be all that is required. I do not believe in pecking at it with a two-hour treatment today with 50 mgms. of radium and in a day or so a repetition of the same.

If there are hard edges and some induration,

300 mgmhrs. to each sq. cm. is the required dosage.

The prognosis in these cases is more grave if there is associated glandular enlargement and also if the patient is very old. In the very aged there does not seem to be enough resistance of the surrounding tissue.

Prior to the advent of radium needles, it was very difficult to treat cancer of the tongue, because it was next to impossible to keep the tubes against the tongue lesion. But when radium needles were brought out, the prognosis in carcinoma of the tongue became markedly better. These cases are cured by the insertion of steel needles containing radium in the periphery of the growth, but we are probably having even better results by the use of gold implants, of radon. These are extremely small and do not act as a foreign body in the tongue. Sometimes they may slough out during the period of reaction, or they may become embedded in the cicatricial tissue. The treatment in cancer of the tongue should be over with one application.

If there are no palpable glands at the time the patient applies for treatment, the prognosis is good. If there are palpable glands, they should receive thorough radiation at the time the local lesion is treated. This treatment can consist of either heavy radium pack over the gland or deep x-ray therapy. If, for instance, one gland is affected, such as the submaxillary or the submental, I prefer the radium pack, but if the entire cervical chain is involved, then deep x-ray therapy is to be chosen from an economic standpoint.

Once a gland is involved, we never know where the next deposit of cancer cells will be.

I have in mind a man of 74 who presented an early cancer of the base of the tongue, also an enlarged submaxillary gland. The local lesion was treated by the insertion of steel needles, and the healing was uneventful, leaving a soft pliable surface. The submaxillary gland was treated by a heavy radium pack. This gland responded well to treatment and in the course of 6 weeks was not palpable. The submental gland then showed signs of invasion and was treated in the same way with a radium pack. The enlargement disappeared in a short time, and the patient was in apparent excellent health. Some three months after his last treatment, he suddenly dropped

dead in his home. His physician stated there was no heart involvement. Now it is possible that there was a cerebral metastasis. Evidencing a truism, that we never can tell when our cancer patient is cured.

I wish to return for a moment to a consideration of cancer of the cervix. If the cancer involves the posterior lip and up into Douglass' cul-de-sac, it is difficult to treat it with sufficient dosage to destroy the cancer cells without producing a rectovaginal fistula. This treatment should not be attempted by any one not acquainted with the destructive power of radium. Heavy screening of the radium tubes is the only method that will mitigate the power of the rays toward the rectum. The same applies to the anterior portion of the cervix, when a vesicovaginal fistula may result, though not with the same frequency as a rectovaginal fistula.

These two conditions are late complications of malignant disease treated with radium. Another complication is chronic ulceration of the rectal mucosa, which is very annoying to the patient, and extremely stubborn in healing.

Carcinoma of the rectum is not nearly as satisfactory to treat as carcinoma of the cervix uteri. A case should never be attempted without a preliminary colostomy, as it is vitally necessary that the part should be kept quiet and clean during the period of reaction. If the cancer is of the annular type, the radium carrier must be placed and held, so that the rays are evenly distributed throughout the growth. If, after the administration of from 3,000 to 4,000 mgmhrs. there is not a disappearance of the growth, I believe it is fatuous to attempt further radiation, as all we will do will be to produce a chronic ulceration that adds much to the discomfort of the patient. In cases of recurrence of rectal carcinoma after radium treatment, the use of electric coagulation has proven of value in a number of cases that have come under my observation. In applying the active electrode, the mass must be exposed as much as possible, and the pointed electrode plunged into the mass at various points, until the mass is generally whitened. The patient will go through a period of sloughing, but will suffer no more pain or discomfort than from radium, perhaps not so much. In the few cases where I have employed electric coagulation the results have been eminently sat-



isfactory. An examination after six weeks showed a complete disappearance of the growth, and apparently healthy mucosa.

Of the nonmalignant growths treated with radium, I wish to say a few words regarding uterine fibromata.

If the fibroid is very large and is causing pressure symptoms it is foolish to attempt to treat it with radium. The patient should have relief by surgery as soon as possible.

There is only one condition that would argue against operation, and that is a low red cell count and low hemoglobin index, from loss of blood. It is in the interstitial type of fibroid, associated with bleeding where radium has proven of inestimable value. In nearly one hundred per cent. of cases the bleeding is stopped permanently, and in a slightly less number the size of the tumor is decreased, the uterus sometimes coming down to normal dimensions.

I have had several cases, in women before the menopause, where the tumor was the size of a grape fruit, and where bleeding was the prominent symptom. In these cases the bleeding had continued for several months, and when I was called in the hemoglobin index was low, in one case 18, and the red cell count also low, sometimes 1,300,000. These cases all responded in about the same manner. Bleeding stopped in a week. In most of the cases, there would be a show of blood about the third week after the radiation, which naturally alarmed the patient, but when they were assured that it was only temporary they calmed down. In the course of a month the hemoglobin index and red cell count increased with leaps and bounds.

These are the cases that before the advent of radium were well nigh hopeless, because it was impossible to operate owing to the low hemoglobin index and low red cell count. Curetting and packing does nothing in these cases. If radium had but this one field of usefulness it would be an invaluable remedy.

Uterine hemorrhages not associated with fibroid, all respond to radium. If there is a septic condition in the pelvis or a cellulitis present, radium must be withheld until this condition is remedied. If the bleeding occurs in a woman of child-bearing age, the dose must be arranged so that a permanent amenorrhea will not result.

In bleeding at the time of the menopause such attention to dosage is not required.

In closing, I wish to say that the one who applies radium should be thoroughly grounded in the physics and the biological effect of radium, and this can only be gained by experience. No one who has not had experience with the action of radium should attempt to apply this potent agent without the advice of one who has been through the school of actual experience. I doubt very much if any case can be described so truly, that proper treatment can be given, without direct contact with the case and careful observation of conditions.

Much damage has been done by the improper handling of this otherwise valuable agent.

(Discussion on papers by Dr. Flesher and Dr. Hanford.)

Dr. Harold Swanberg, Quincy, Ill.: I shall be very brief, because we are anxious to conclude this program this morning rather than to prolong it until the afternoon. Dr. Flesher's paper and Dr. Hanford's paper are very interesting and instructive. I have discussed some papers of Dr. Flesher's before and I don't think we exactly agree about the large amount of radium that is necessary. I think it is desirable many times to use a large amount of radium, but I don't think it is necessary to have 500 to 1,000 milligrams to successfully treat carcinoma of the lip. I have treated many patients with much less amounts quite successfully. Probably the duration of my treatment is longer, but I don't think Dr. Flesher's results are much better. As I mentioned in connection with the previous paper, I want to emphasize the effect of the comparison of deep x-ray therapy with radium therapy, in regard to the depth-dose and that applies, of course, to cervical metastasis, although it is not quite as important that such a deep dose be used here, as compared to pelvic malignancies. We frequently hear this point about a large amount of radium being necessary. I would like to call your attention to the work that is being done at the Radium Institute of Paris (the institute with which Madam Curie is associated), especially in carcinoma of the cervix. I think the last reports from there have been among the most encouraging I have read. They are using in the treatment of carcinoma of the cervix only a small amount of radium, sixty milligrams, I believe. A very interesting article appeared in the *American Journal of Roentgenology* a few months ago, discussing their technique with this small amount of radium, which is heavily filtered and used daily, over a period of five to seven days. Forty-three to forty-five per cent. of their inoperable cases of carcinoma of the cervix were clinically well at the end of one year. I doubt very much if any institution has been able to show better statistics than this.

yet these results were obtained with a small amount of radium. This makes us consider carefully, whether large amounts of radium are absolutely necessary.

While we must have a certain minimum amount of radium, it is the skill and technique of applying the radium that counts most.

Another point I would like to emphasize is, that we must differentiate between recurrent carcinoma and carcinomas that are not completely killed and need a second treatment. I think in the majority of cases of carcinoma of the cervix, it is quite necessary that we make monthly examinations; and if we have secured a good result, but have not completely destroyed the growth within six or eight weeks, we should go ahead and apply an additional radium treatment to the cervix. I want to be brief so will stop now.

Dr. O. W. Allison, Danville, Illinois: I liked Dr Hanford's paper very much. In regard to the discussion about the amount of radiation, I am interested in that, too, because both sides have been already expressed. But the thing I was thinking of especially in the discussion was the infection. Ordinarily speaking, we have been warned time and time again not to use the radium when we have infection. With a carcinoma of the cervix and an old pelvic trouble, we can not lay down and let the cancer eat the patient up. So, naturally, we would step on it with radium. We give it a full dose, then treat the after effects. I have had some experience with bladder cases. I would go ahead and give the radium treatment. It seemed to lessen the bladder infection. With care of the patient afterward the bladder trouble seemed to be better than ever before. Whether it was any reaction from the radium I do not know. Anyhow, the bladder was better than it had been for a number of years.

Then there is another thing in the application of radium. One thing I learned by a little practical experience was in regard to radiating around the joint. The question of coming up around the joint, laying the radium there on the patient, especially in children. Before the proper time to make my change, the patient may go to sleep, flex his arm, make a double exposure and something happens, parts exposed not intended or possibly a burn. It is a good thing for us to remember.

Dr. Henry Schmitz, Chicago: I agree with Dr. Swanberg relative to the amount of radium to be used. It is folly to say we must have 500 to 1,000 milligrams to secure results in treatment. It is necessary to apply a given amount of radium to the diseased area in such a manner that the latter is permeated homogeneously by the rays. Obviously the amounts of radium used must vary depending on the size and location of the carcinoma.

In carcinoma of the cervix we never use a larger amount than 50 milligrams, although much larger amounts are in our possession. The results ob-

tained compare well with those reported from other clinics.

Dr. Hanford referred to the bleeding uterus. We are making in Chicago a study of the bleeding uterus and have so far reviewed 2,000 consecutive gynecological cases. About 700 patients were suffering from bleeding of the uterus. Of the 700 cases about 300 were due to myomas, fibrosis and chronic hypertrophy of the endometrium with persistent Graffian follicles. The others were caused by cancer, infections, displacement, etc. About 45 of the 300 bleeding uteri with pathology in the uterus were treated with radium. The others responded to curettage or proper medical or surgical management.

I bring these results to your attention to indicate the necessity of the proper selection of cases and the limitation of radiation therapy. One should not produce a surgical or radiation castration if other methods will give relief. Hence careful diagnosis and consultation with specialists should precede the use of radiations in bleeding uteri in every instance. This procedure is especially advisable in younger women.

Dr. R. E. Flesher, Chicago, Ill.: I wish to say that while it is true some patients with a small epithelioma of the lip may apparently be cured with fifty or 100 milligrams we have observed a decided increase in the number of cases cured, since we began to use very large quantities of radium, i. e., in the last 8 years.

In most cases it is absolutely necessary to have at hand at least 1,000 milligrams of radium.

## THE COORDINATION OF PUBLIC HEALTH ACTIVITIES\*

W. S. KEISTER, M. D.  
DECATUR, ILL.

The health of its citizenship is the community's greatest asset whether viewed from an economic, social, political or other standpoint. The conservation of the public health should be the first duty of the nation, state and individual locality, for there is no other form of conservation of the nation's resources which yields greater returns either financially or in the building of a strong virile people. Too often these simple facts are overlooked.

*Public Health a Business.* Organized public health work has for its objects: 1. The prevention of disease, 2. The preservation of health, and 3. The prolongation of life. Many view this work as humanitarian, some as philanthropic, others as social welfare. But it makes no difference how we consider it, public health is primarily a business proposition, and every

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dollar spent in preventing disease, preserving health or prolonging life, if wisely used, is a dollar well spent and should yield the greatest economic returns to the community. The people's health is too important, yes, too sacred, to be mixed up with politics, graft or any other nefarious scheme which may be undertaken to misuse the money intended for the preservation of better health in the community. Health workers are sometimes guilty, though usually innocently, of misusing public health funds. Such persons usually have a "pet" theory they want to try out, or undertake a little private research with the funds appropriated for public use, test out a special larvicide for mosquitoes, or a particular rat poison, or devote most of the time to developing an elaborate system of records before any real effective work has been accomplished to record, or some other foolish notion; when there is pressing work to be done in the matter of conducting vaccination or toxin-antitoxin campaigns to prevent an impending epidemic of smallpox or diphtheria, or they fail to conduct a very much needed physical inspection of school children, or a sanitary inspection or many other activities more needed or appropriate at that time. I recall the instance of a friend of mine, a fellow Health Officer, who like many of us, was taught (in a public health school) that the first duty of a health officer was to adopt an accurate system of vital statistics. Soon after graduation he was placed in charge of a county health unit and according to his teachings, his first activity was to try and develop an elaborate system of collecting vital statistics, but he soon found the people were not interested as yet in births and deaths, and he made a radical change in his work and began a vaccination campaign and later a medical inspection of the children in the rural schools. Vital statistics, like other statistics, mean nothing until they can be properly interpreted. They are valuable, after the health officer can show by his work that the death rate has been lowered or the infant mortality rate has decreased, but other activities are frequently more important when a new work is started. Every dollar spent for public health will yield a dollar's worth in return, if properly used; otherwise, the expense is not justified.

*Organization of the Work*—If the work is to

be conducted in a business like manner it must be well organized. It should be conducted from the standpoint of the whole community rather than for the interest of any one or more organizations engaged in it. All results achieved in the community should be collected and presented in "A report of all public health activities accomplished in the city or county of ——— during the month of May, etc." Though each agency may have its own board, certainly the health department should have its official board of health as a legal and advisory body to the director of health, whose function shall also be to promulgate certain rules to safeguard the health of the community, to procure appropriations for carrying on the work, etc. Early in the organization of the work, the director of health, with the assistance and advice of the Board of Health, should make a study of the local situation with particular attention to the present and future public health needs of the community and the activities already being conducted by the various agencies engaged in such work. Duplication of effort and overlapping of work should be corrected as far as possible. Full publicity should be given the public regarding the activities of all agencies, and a strict and accurate accounting system instituted for all. The public has a right to know how its money is being spent and what results are being accomplished with it. With such a system it would be far easier to secure the necessary funds to conduct the work properly.

*Voluntary Versus Official Health Agencies*—Much has been written in recent years regarding the place of the voluntary health agency in the nation's public health program, and some have even gone so far as to claim there is no place for such organizations. The voluntary agency certainly fills a very distinct and indispensable place in the community's health program, and without it much needed work would either be left undone or greatly delayed. Both the official and voluntary agencies are very necessary, the latter often being the means of securing the public's support for a much needed activity, the value of which the city officials are often slow to recognize. One of the chief functions of the voluntary agency is to popularize and advertise some public health activity until the official health department can take it over and

carry it on with funds from the public treasury. The need for the particular agency then passes, unless it decides to undertake some other activity not already being conducted in the community. The value of such agencies is readily seen when one considers the work accomplished by such organizations as the National Tuberculosis Association, the American Red Cross, The American Association for the Control of Cancer, the American Social Hygiene Association, etc. and their local branches.

*Coordination of All Health Agencies*—The official health department is the public health spokesman of the community and should rightly direct the public health policies of the community and absorb the work of the voluntary agencies as soon as funds are available, and it seems advisable to take on the additional activities. Until such time the voluntary agency should continue its own work, being careful to avoid doing the work of another agency and of course maintaining its own identity which is so necessary for the proper performance of the work undertaken by it. It should also coordinate and correlate its work with that of the local health department and the other health agencies, and should from time to time seek the advice and assistance of the local director of health, trying in every way to work in harmony with his desires. It would be highly desirable for all agencies to have interlocking boards of directors with the director of health an ex-officio member of each board.

#### THE DECATUR PLAN

With your indulgence I would now like to present to you the plan adopted in Decatur for coordinating the work of the various public health agencies.

Before September, 1924, the public health work of Decatur had been largely in the hands of lay workers, except for short periods of time and much good work was accomplished, but there were several agencies doing it and carrying on their activities more or less independently. However, it became apparent to all interested persons, that the health needs of the city could best be met by employing a medical health officer for his full time. This idea was largely fostered by the local medical profession working in cooperation with the Commissioner of Public Health and Safety and other interested persons.

Accordingly, it was decided to form a Central Health Committee, composed of the leaders of the various organizations related to or interested in public health. The chairman of the committee was instructed to find a trained medical health officer. Working in cooperation with the State Department of Health, the chairman invited the present health officer to come to Decatur and meet with the committee who decided to offer him the position, his work to begin on Sept. 2, 1924.

At that time the health department had a lay health officer, one dairy and one general inspector. The venereal disease clinics, held on 3 different days each week at the Decatur and Macon Co. Hospital, were in charge of a physician employed by the health department and financed from funds largely supplied by the State Department of Health. The follow-up work of these clinics was carried on by the police matron. The Pines Baby Health Center in the east end of the city was also under the supervision of the local health department, the salary of the director being paid from the public health budget and a nurse being furnished by the Macon County Hospital. At the present time the same activities are being carried on by the same workers, with the exception that the lay health officer is now assistant to the medical health director and devotes most of his time to food and other inspections. The dairy inspector has enlarged his work but devotes his whole time to the milk supply. The other inspector devotes most of his time to nuisance control, etc. A communicable disease nurse has been employed to investigate, quarantine and look after all cases of contagion. The laboratory work is now done at the Decatur and Macon County Hospital instead of by the State Department of Health as in the past. This arrangement has been greatly appreciated by the medical profession. The Central Health Committee still functions when it is necessary to call upon them, but a Board of Health of five members has been recently organized which acts as a legal and advisory body to the health officer.

When the present health officer was employed, it was decided to make him director of health in the schools, part of his salary being paid by the Board of Education, and he to devote four afternoons each week to the medical inspection of schools. Previous to this time two school nurses



were employed to conduct physical inspections, carry on the follow-up work necessary to secure the correction of defects, direct the work of the school clinics, the health education work in the schools, etc. One additional nurse has been added since September, 1924, and the work of medical inspection, control of contagion, etc. has been greatly augmented. The above activities are financed by the Board of Education. Three mornings each week a dental clinic and one eye, ear, nose and throat clinic are held for pupils who cannot afford to pay for this attention. This work is financed by the Community Chest. Following the death of the director of the Macon County Tuberculosis and Visiting Nurse Association, the health officer was requested to accept the position. He agreed to this arrangement, provided an office and a secretary be provided for the conduct of this work and the work of the health department. At that time there were three nurses employed by that organization. At the present time there are five nurses, one of whom spends her whole time in the work in Macon County, a secretary and a director. Two open-window rooms have been provided for out of the funds of the association, together with the assistance of the Board of Education. The Parent-Teachers Federation aided in this work also by furnishing the kitchen equipment. The work of the nurses consists principally in visits to indigent cases, furnishing instruction and nursing care, visits to Metropolitan Life Insurance Co. cases, infant and maternity hygiene, delivery of birth certificates, visits to cases of tuberculosis, physical inspection and follow-up work in the county schools, etc. The open-window rooms are financed chiefly by the Christmas Seal Sale and the other activities by funds derived from the county Sanatorium Board, the Community Chest, the Metropolitan Life Ins. Co. and a small amount from patients' fees.

Tuberculosis, venereal disease, pediatric, orthopedic, skin, gynecological and maternity and mental hygiene clinics are conducted each week at the Decatur and Macon County Hospital. The closest cooperation exists between this institution and the agencies mentioned. The same is true of such organizations as the Medical Society, the Wabash and St. Mary's Hospitals, the Social Service Bureau, the Parent-Teacher's Federa-

tion, the Woman's Club and various other civic organizations.

Many advantages are obtained from coordinating all public health activities under one director. It means greater economy, less overlapping of work, and greater efficiency. The work becomes better systematized and each organization understands better what the others are doing. Shortly before the reorganization of the work in Decatur, (in June, 1924) an appraisal of all health activities was made by a representative of the American Child Health Association, and Decatur was given a score of 380 points, placing her 74th in the list of the 86 cities in the United States ranging in population from 40,000 to 70,000. In the spring of 1926 a similar appraisal was made by Dr. Thos. Parran, Jr. of the U. S. P. H. S., and Decatur was given a score of 695 points, an increase of 316 points, or nearly 83%. If Decatur had had the latter score on the first survey, she would have ranked 4th, instead of 74th, among the 86 cities of the United States. In Dr. Parran's survey of the 15 largest cities in Illinois (exclusive of Chicago) Decatur attained the third place, although she only ranked eighth in the amount of money appropriated for public health purposes. What brought about this change? The answer is plain—cooperation, coordination and correlation of all public health activities, together with a more systematic and easily available system of records.

To make a success not only must there be cooperation and coordination of all activities, but the director of health and his assistants must be able and efficient, truly in love with their work, untiring in their efforts, enthusiastic about the thing they are doing, with strong personalities, with plenty of tact and good judgment, not easily offended, and determined to stand for the right and enforce the laws in a kindly manner, obey authority themselves and support their superior in his work and all work harmoniously together. Decatur has almost "reached the end of the rope" unless more funds are appropriated for expanding the work and entering upon new activities which are so necessary. The success of the work so far has been very largely due to the splendid publicity given by the newspapers, and one cannot help but feel that the very life

and success of all public health work depends to a very large extent upon good publicity.

Since the reorganization of the work in Decatur, it has been felt by many that the city and county should be united. Such an arrangement, if properly financed and provided with sufficient personnel to do the work properly, would undoubtedly mean greater efficiency and economy with a consequent saving in life and prevention of disease. The county is the logical unit in public health work in the United States, and it is to be hoped that the day is not far distant when an enabling act will be passed which will enable the counties of Illinois to secure adequate public health departments. Only until public health needs are adequately met through cooperation, coordination and correlation of all interested agencies with adequate funds, can we hope to approach the high ideal toward which all of us are striving.

#### DISCUSSION

Dr. John J. McShane: I know all those who have heard Dr. Keister's paper will agree with me that he has accomplished many things in Decatur since he became health commissioner of that city. He has covered the field so well in his paper that I feel in the discussion of same it might be well to touch on a few high points relative to need of proper city and rural health administration.

We recall that about fifty years ago, the filth theory dominated all health work. The idea that fermentation and decomposition of vegetable and animal matter giving off poisonous gases were supposed to be the starting point or cause of epidemics while others thought that living germs were the cause of disease and epidemics. As a result of such belief the principal work of health departments in those days was the abatement of nuisances, cleaning of streets and disposal of garbage and in some instances, sewage disposal. It is true there had been some thought given to betterment of water supply.

There is no question as to need of garbage collection, proper sewage disposal and clean streets and it is necessary that some department of city government be responsible for same. In the southern states a great deal of attention is given to sanitation and rightly so, due to their particular health problems.

During the second period the influence of the germ theory as the cause of disease was responsible for a more scientific attempt in the control of communicable disease. It was during this period that it became evident that nuisances had little or nothing to do with the spread of disease but that these diseases were spread from man to man in a direct manner. It was during this period that the laboratories identified a number of disease germs which added greatly to our knowledge of the control of communicable disease and during the

latter part of the nineteenth century it was proven that a number of diseases were spread by insect carriers such as malaria, African sleeping sickness, bubonic plague, typhus fever and a number of other diseases were spread in this manner. As a result of such knowledge of transmission of disease from person to person steps were taken to enact laws and promulgate rules requiring notification of certain communicable diseases and isolation of persons ill with those diseases. Also about this time fumigation came into prominence but we realize now that since the air-borne theory of disease has been exploded that fumigation has little or no value and that concurrent disinfection of discharges and thorough sunning and airing after termination of a case is all that is necessary. We further realize that the isolation has not accomplished all that was expected in the control of some of the communicable diseases due to the fact that it is difficult to find the source of each case and contact and keep them under supervision. Our reason for failure in the control of communicable diseases is due in greater part to missed or atypical cases and carriers and the real work of health departments is the locating and control of the missed case and carriers, where possible.

At the close of the first quarter of the century, we know that to control communicable disease there must be a broad public health program both in city and in rural districts. No special line can be complete in itself as the whole problem of health is so interrelated and complex that it is impossible to make progress on one line unless it is conducted in a definite and proper relation to the other. We realize the importance of infant welfare, of health supervision of school children, the necessity for safe milk and water supply and we can easily understand why the physician and nurse will displace the sanitary policeman. We can easily understand the need at the present time in our state for better health administration when we realize that we have only seven or eight full time medical health officers in this great commonwealth of ours where there are over 2,700 health jurisdictions and over 1,600 of these are township boards of health. On account of insufficient personnel in a number of the smaller cities and in the rural sections, extra governmental agencies are carrying on work other than by the local health departments. With the right man on the job and sufficient personnel in health departments in the city and other health jurisdictions, there is no reason why there should not be a close coordination and cooperation between the official and non-official agencies in the health department in their work. With the proper health program there is no reason why the health department will not receive the aid of the city and county medical societies and there should be no question as to the success of such a program. I am sure that many times programs fail because the community has not been properly sold on the program instituted by the health department and again that the health officials assume that the local profession are familiar with their work, methods employed and results which they hoped to accomplish. I am sure that if these points were definitely taken up with city and



county medical societies in those rural areas where they are trying to put over their work there would be no question as to the success if the program is a sound one. This has been proven in many states where county work is being carried on. They not only have the good will of the medical profession but in a number of instances the medical societies are responsible for the starting and erection of full time, both city and county, health units.

Dr. Frank L. Rector, Chicago: I think this question of coordination of health work in the community is one we can not stress too much. We have only to look at the present situation in the Mississippi Valley to see what coordination has brought about. Never in the history of this country in time of disaster has there been such efficient cooperation, such efficient work, as there is in the Mississippi flooded area, and that has been due to the fact that the Red Cross and the Public Health Service and the other agencies have all united on one man at the head of this work. We think at once of Mr. Hoover as being that man. Well, Mr. Hoover is, I think, probably in charge of the whole situation but the man who sits behind the scenes and delivers instructions is Dr. John McMullen of the Public Health Service with headquarters, I think, at Memphis, or maybe he has moved to New Orleans at the present time. I am told that everything that goes on in connection with the personnel of the flood relief must pass through Dr. McMullen's hands, and in that way, everybody is given a square deal, and everything is run along cooperatively, along parallel lines and to no cross purposes. I think that idea can be brought right back to our State and our local health departments. We have a few interested groups in any local community, groups interested in health. One of these is your health department, another is your group of voluntary health and welfare agencies, another is your school group, your school board of education and others responsible for school health activities. By and large, these all should be headed up under the health department so that there will be cooperation rather than duplication.

Dr. Keister, in response: There are just two points I wish to make. One is, I didn't mention very strongly in the paper the cooperation of the physicians of the community. It wasn't intentionally left out. I just had other things which caused me to overlook it to some extent. A great deal has been said this afternoon about the doctor's place, in this program. You might as well go out and "butt your head against a stone wall" as to try to do public health work in a community unless you have your physicians with you. There is no reason why you can't get them with you if you work with them. I say this feelingly and knowingly. There is no finer group of men to work with than the physicians of the community. It is true that the public health man and the practicing physicians don't always agree on all things to be done but that doesn't change the situation one iota. If you can't agree on a problem, why, dismiss that problem for the time.

There is plenty else that you can agree on. Work on things you can agree on and make a success of it.

The other point I want to refer to, since I am out of health work today in Illinois, is, if the State Department of Health is to do anything, for God's sake, remove it from politics. That is the most baneful influence you can think of. There is no criterion as to efficient public health service as long as one politician in the community can uproot and turn the whole thing over, and that is what Illinois is suffering under, along with a great many other States, and, although it is a little disquieting to me to be out of public health work, I have got one satisfaction and that is, I would rather carry away the good will of the community than work under a certain commissioner for four years, and I have had the privilege of politely telling him to go to the lower regions.

## THE TREATMENT OF CHRONIC DEAFNESS\*

HARRY M. THOMETZ, M. D.  
CHICAGO

The treatment of chronic deafness has been for a long time a major problem in otology. Medicines only rarely are of value. Tubal inflations sometimes help a little. Increasing vogue in the use of mechanical and physical agents seems recently to have widened the opportunities for successful therapy.

This domain of research has been very confusing. Commercially subsidized data is not well founded nor free from contradiction. Prominent clinicians, on the other hand, have aired opinions that seemed to be based on prejudice, if not fundamental ignorance. It has been hard, therefore, to know what to believe.

I am going to submit some conclusions drawn from my own accumulated experience of the past four years. Sandwiched as this paper will be in the midst of controversy you may believe me or not. At least I will congratulate myself if I have provided some food for thought. Final verification can come to each man only through individual experience.

Of prevailing practices in the treatment of chronic deafness I want to mention,

First: Negative galvanism in the external auditory canal, on the theory of softening a hardened ear drum and adhesions and stiffness in the chain of ossicles.

Second: Positive galvanism, applied through the nose to the pharyngeal orifice of the

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eustachian tube on the theory of inducing shrinkage of the mucous membrane and re-establishing tube potency.

Third: Simusoidalism, on the theory of inducing electrically and forcibly contractions and relaxations of the tensor tympani and stapedius muscles in order to mobilize the ossicular chain.

Fourth: Mechanical vibration, as by the use of a pneumatic vibratode in contact with the point of the jaw with transmission of the stimulus through the temporo-mandibular articulation to the whole content of the temporal bone. Under this heading we can also classify instruments known as rarefacteurs, auto-concussors, etc. I need not amplify their description. They produce in varying degrees or refinement the so-called pneumo-massage.

Fifth: Acoustic exercise, is an ancient idea modernly developed by Urbanshitch of Vienna and Goldstein of St. Louis. Constantly repeated stimuli it is claimed in the form of musical sound waves can awaken even completely deaf patients to sound impressions. Dormant tone islands in the organ of Corti are stimulated and then broadened in function. Subsequently speech exercises are added in which the pupil is taught to comprehend first, simple vowel sounds; second, combinations of vowel sounds; and third, syllables.

It is pointed out that establishing even a vestige of hearing is of great practical value in that it modifies the unpleasantness in the tone of voice of the deaf mute. A disadvantage of the speech exercise has been the severe strain on the vocal cords of the teacher, with consequent laryngitis and aphonia. To obviate this difficulty a French physicist, Zund-Burguet, devised an apparatus which he named "Electrophonoide." This apparatus contains three mechanical larynges in which the vocal cords are replaced by vibrating platinum lamellae. It is possible to reproduce sound waves varying in frequency between eighty and 3,500 double vibrations per second embracing thereby the whole range of the human voice. The sounds reinforced by batteries are transmitted to the ear through telephone receivers. Of one hundred cases reported on by Cathcart and treated by this apparatus alone, sixty-eight were definitely improved. Classifying the cases clinically there were improved 81% of the cases of nerve deafness, 67% of the cases

of conduction deafness, and 55% of the cases of otosclerosis.

An instrument similar in principle to the electrophonoide but going under the name of "The Deifone" was tested out at the Cook County Hospital, Chicago, by Salinger. I will paraphrase briefly from his report:

The apparatus consists of a phonograph which, playing any desired record, passes its volume of sound through a series of amplifying tubes reinforced by batteries and controlled by rheostats to a head piece, which is clamped over the ears of the patient. It is possible to increase the intensity of sound up to a point of actually causing pain. The theory is that no matter how far deteriorated the hearing apparatus may be there is still an appreciation for sound in the nerve apparatus or in the brain which can be reached if sufficient stimulus be applied. By increasing the intensity of sound the threshold of audition is reached and then by continuing the stimulus a re-education of dormant auditory nerve centers takes place. Furthermore, the reinforced sound waves mechanically stimulate the membrani tympani and ossicles and bring about increased flexibility and sensitiveness.

According to this report, of sixteen patients placed under treatment and carefully checked for results obtained, two were improved, two showed no change, four were doubtful and eight were made worse.

Those made worse showed a lowering of their high toned limits, indicating increased damage to nerve structures. Salinger infers that excessive stimulation should be guarded against as the long continued application of intense sounds is apt to impair in nerves their finer responsiveness as is the case in boilermakers' disease.

Sixth: The use of radium has been described by Walter C. Stevenson and F. G. Wilson in the *Journal of Laryngology and Otology* for February, 1927. Calling attention to the well known softening effect of x and gamma radiation on scar tissue including keloid, they surmised that fibrous tissue binding together the ossicles could be similarly softened and stretched. They used radium emanation seeds in doses of from .1 to about .4 millicuries enclosed in brass capsules which were inserted into the external canals as far as the drum and left in situ for twenty-four hours. Of eight cases of chronic catarrhal otitis media reported on, three were unchanged and five showed definite improvement.

Seventh: The positive static breeze is a form of treatment recommended by a number of the



older electrotherapists. It has appeared to me to be of distinct value.

Eighth: Diathermy has been a much advocated remedy. The fact that heat favors chemical change is familiar to all of us. Its favoring influence upon the energy of metabolic processes in living tissues is also generally recognized. As Crile states it, a 10% increase in chemical activity and a  $2\frac{1}{2}\%$  increase in metabolism results from each of 1 degree of temperature. This is explained in terms of the kinetic molecular hypothesis, by supposing that an increase in the speed of motion of the molecules that constitute matter is brought about, along with an increased number of intercontacts and consequent reactions. That such stimulation is sufficient to exert a favorable influence upon the impairments in tissues that produce chronic deafness I am not able from my experience to affirm. But there is strong evidence in my experience of the value of diathermy as a preliminary to the exhibition of more powerful agents such as x-ray, increasing the latter in minimal doses in its physiologic but not its lethal effects.

As far as theory is concerned, it has been hypothesized that x-ray ether waves in small doses have the power of profoundly influencing the ultimate chemical constituents of body cells. The evidence in favor of this assumption I will try to set before you in as clear a manner as possible.

Modern atomic and electronic research indicates that the basis of all chemical change is in its nature electrical and consists merely in a shifting of the ultimate constituents of atoms, namely electrons. When I say electrons I refer more specifically to negative electrons, these being the lighter, more mobile and peripheral constituents, that balanced between a force of electrical attraction on the one hand and centrifugal repulsion on the other, rotate around the central positively charged nuclei in relatively large orbits. It is the shifting of these electrons that establishes attraction and new co-relations between the nuclei of atoms and thereby chemical change.

Now it is a recognized fact that x-ray ether waves have the power of shifting electrons. The mechanism of the ionization of gases, as Millikan tersely states it, consists in the hurling out of single electrons from occasional molecules over

which the ether waves pass. This action is exemplified in the ionto-quantimeter, a very sensitive instrument for measuring x-ray dosage which is simply a modified electroscope. In this instrument, under exposure to x-ray, electrons are ejected from the contained air and pass through the wall of the jar and a ground wire to earth. The deficiency thereby occasioned in the molecules of the air is made up by electrons abstracted from the leaves of the electroscope and the instrument becomes discharged. Please note that very minimal doses of x-ray will produce the effects just described. That such doses might similarly eject electrons from molecules in human tissues is a plausible inference. But what the exact results of this are remains as yet a subject for rather wild speculation.

The dosage of x-ray that I employ embraces the following factors: 70 kilovolts, 4 milliamperes, 15-inch target skin distance, 2 millimeters of aluminum filtration, time 35 seconds through each ear at intervals of twice a week. Occasional larger so-called sclerolytic doses approximating to one-half of the amount of an erythema dose have been recommended for their shrinking effect on the mucous membrane of the eustachian tubes. These doses I have not found to be necessary. Practically invariably after several ionizing treatments, preceded by diathermy, occluded tubes becomes pervious. That an additional reconstructive effect on nerve tissue occurs, I believe to be probable, having observed in a number of instances improvements in patients with findings of nerve deafness and patent eustachian tubes.

By way of a supplement to this paper I want to make a few remarks on the technique of diathermy applications to the ears.

Anatomy tells us that the length of the external auditory canal from the point of the tragus to the anterior and lower end of the drum is 35.2 mm. Its length from the rear part of the entrance is 24 mm. The transverse diameter varies between 3.6 mm. at the drum to 6.4 mm. at the entrance. The vertical diameter averages 8.5 mm. An electrode on the outside of the skull will be separated from the drum in a direct line then by 35.2 mm. of what is mostly non-conducting vacant space.

Ellis G. Lynn in a recent publication pointed out an error that has appeared so often in the

literature as to be accepted at face value from the mere fact of its multitudinous repetition. This error lies in the statement that the point of greatest heat generation between electrodes is at the crossing of lines drawn between edges diagonally opposite. On this theory the maximum heat localization between two ear electrodes will be at the center of the brain stem. As a matter of fact the condition is the reverse. The mid-point is coolest, areas adjacent to the electrodes are warmest.

I performed the following experiment on a potato. The ends of a potato were cut off and broad flat electrodes placed in contact. Four clinical thermometers were then inserted with the bulbs in a direct mid line, number 1 at a distance of 1.5 centimeters from an electrode on one side; numbers 2 and 4 in corresponding positions 3 centimeters from either end; number 3 in the center 5 centimeters equidistant. A current of 700 mm. was sent through the potato.

In three minutes thermometer number 1 started to rise. In 9 minutes it registered 110. In 8 minutes numbers 2 and 4 started to rise. In 19 minutes they reached 110. In 9 minutes number 3, the middle thermometer, started to rise. In 23 minutes it registered 110.

To reach the middle ear effectively, therefore, electrode contact with the drum itself is necessary. Ellis G. Lynn accomplished this by a special head piece and needle shaped electrodes wrapped in moist cotton and inserted into the depths of the external canals. For myself I prefer the use of lead moulds manufactured in several sizes appropriate to different sizes of ears, configured to the hollow of the concha and fitted with protuberances that extend into the depth of the external canal as far as the isthmus. The space beyond the isthmus as far in as the drum I plug with cotton that is saturated with a dilute solution of sodium bicarbonate. This gives the equivalent of a direct electrode apposition.

7 S. Crawford Avenue.

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### THE PITFALLS IN EYE, EAR, NOSE AND THROAT DIAGNOSIS. THE DIFFICULTIES OF BRONCHOSCOPY\*

GEORGE W. BOOT, M. D.,  
CHICAGO

It is a perfectly safe statement that no field in medicine or surgery is quite so difficult as bronchoscopy. In no other field is it necessary to work in a field a quarter of an inch in diameter at the bottom of a tube eight or ten inches long using only one eye, with no anesthesia or with very imperfect anesthesia, with mucus welling up to cover your field, with the parts in constant motion due to respiration, efforts at vomiting, coughing or retching, with no chance to apply counter pressure, with very imperfect illumination or with a light that is continually being obscured by discharge, where the slightest wrong movement may cause penetration of vital structures, where too long continuance of examination causes shock and which is finally rewarded by possession of the foreign body only in the great majority of cases. Bronchoscopy is difficult from the moment it is begun to the time it is finished. One must operate under the greatest of difficulties, many times with untrained assistants. The patient must be watched all the time for signs of shock, for too deep anesthesia, and must not be allowed to struggle. Sudden death from asphyxia or otherwise is apt to occur. In short the surgeon must operate not only under the greatest technical difficulties but he is under the

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greatest nervous tension and when it is all over he may be informed "that your bill is ridiculous. I have made careful inquiry and find that \$150 is about right. Enclosed find check 3207 for \$150 in full." This for a life saving operation on a rich man whose income is not less than \$1,000 per month.

The difficulties of bronchoscopy and esophagoscopy are legion. They begin with beginning of the work and continue throughout. If you attempt to work without anesthesia or with cocaine anesthesia you have difficulty getting the cooperation of the patient. He imagines he is being choked; in fact he is sure of it and if you are not to have him put up his hands and push you and your instruments away before you enter his larynx or just when it is most important that he should not, you will have to see that his hands are well strapped down. If the patient is an infant he can be well pinned into a sheet wrapped around him but then you may pin the sheet so close to him that you interfere with his respiration and if there is anything you do not wish to interfere with it is respiration.

If you choose to give a general anesthetic, ether for instance, you are troubled by the increased production of mucus that ether always induces. In such a case a preliminary hypodermic of atropin is needed to prevent the excess of mucus. Your patient is anesthetized, your ether mask is removed, the tube is introduced and just as you are beginning to work your patient wakes up and struggles in his intoxication. If the patient has prominent upper teeth you have difficulty depressing the tongue enough to enter the larynx. If he has a rigid neck it may not be possible to extend the head enough to enter the larynx. If the patient is a negro you will have great difficulty getting the tongue depressed enough to make the turn to the larynx unless the patient is so profoundly under the anesthetic that his musculature is completely relaxed for negroes have the strength of an ox in their tongues.

In young patients you will have difficulty oftentimes in finding the larynx. With the parts relaxed you will go to one side or the other of the larynx and the glottis will elude you. Here counter pressure on the outside of the neck, with the bronchoscope strictly in the mid line will help greatly. With an older patient with more rigid epiglottis and larynx and with more differentia-

tion of color of the different parts of the larynx it is much easier to find the entrance of the larynx.

Before attempting to do bronchoscopy the instruments should be well gone over to see that everything is in good working order. The interior of the tubes should be wiped dry for it is surprising how much a few drops of water on the inside of a tube can interfere with vision. The lights should be tried out. The Jackson lights burn out easily and their connections are apt to get out of order and then you have no light at all. If you use a Brunings electroscope, again your light may burn out. The mirror may be tarnished or need cleaning. The light may not be focussed right or the mirror may not be tilted to the right angle to get the best illumination.

The forceps must be tried to see if they will pass through the small lumen of the tube. They must be long enough to pass through the tube. There must be no slipping in the attachment of the forceps or the foreign body may be lost after it is grasped. Never use an instrument so constructed that it may by any possibility become fastened to the foreign body or tissues so that it can not be removed. For this reason hooks and wire snares are to be religiously avoided. Think what an awful predicament it must be to have a wire snare fastened to the keeper end of an open safety pin that has gone down the trachea or esophagus point upwards, with no possibility of detachment or of removal without tearing everything to pieces and of course with the death of the patient.

Be sure that cotton on your applicators is tightly wrapped so that it does not come off and add one more foreign body to your difficulties. This warning applies also to post nasal applications for here too the cotton may come off and be inhaled by the patient.

Never use a bronchoscope lighted by the street current in a room with the floor inlaid with metal to ground the current, such a room as we often see prepared for ethylene anesthesia. I attempted to use such a room once and in testing out my instruments before beginning work found that there was such a leak in the fixtures that I burned out the rheostat. Had I been doing bronchoscopy at the time I would surely have killed my patient. If the patient had received the shock I received, with the tube in position so close to his pneumo-

gastric, heart, lungs and diaphragm it is safe to say he would have been killed instantly.

Do not try to pass the tube forcibly through the larynx. The patient will hold his breath when the tube enters the larynx and if the attempt is made to shove it on injury will result. Instead wait until he inspires and when the cords separate in inspiration shove the tube past them. It is well to rotate the tube  $90^{\circ}$  so as to bring the flattened oblique end of the tube parallel to the rima in order to facilitate entrance.

Never pass the tube without having direct vision of the structures beyond. The trachea does not lie parallel to the axis of the body but is inclined backwards. It is not at all necessary to have the patient's head hanging over the end of the table supported by an assistant as was taught in the early days of bronchoscopy. A small firm pillow under the shoulders will allow the head to be extended enough to permit the tube to lie in the line of the trachea. Counter pressure on the outside of the neck will often be of great help in getting the correct line up.

Beware of doing bronchoscopy on patients with high blood pressure, with decompensated hearts or signs pointing to impending apoplexy. The increase in blood pressure from the anesthetic, the apprehensions of the patient or cyanosis may be sufficient to cause death on the table.

Beware of dyspneic patients. Here the question of anesthesia is exceedingly difficult. If an anesthetic is given the dyspnea may be increased by the muscular relaxation. The accessory muscles of respiration may be absolutely needed and when they are out of commission by the anesthetic the patient may not be able to exert force enough to get what air he needs. In addition the increase of mucus may further impede his respiratory powers. On the other hand if the patient is a child or is nervous his struggles may so embarrass respiration that he may die of asphyxia before the foreign body can be removed. Such a case I once had in a child who had inhaled a lead pencil that almost completely filled the lumen of the trachea. It would have been fatal to have attempted the work without an anesthetic or with local anesthesia. A general anesthetic seemed almost equally risky. A hypodermic of morphin would have been desirable but for the depressing effects of morphin on the respiratory centers.

In this case a light ether anesthesia was given and the stub of a pencil pushed down into the bronchus leaving one lung free for respiration until the pencil could be properly grasped, which was no easy task, and then quickly removed.

Unless life is threatened do not be in such a hurry that the patient is not properly prepared. It is much safer to do bronchoscopy with the stomach empty than with it full.

Beware of retropharyngeal abscess in doing bronchoscopy or esophagoscopy. It may rupture and drown your patient in pus. Or your patient may die of asphyxia while you are attempting to introduce your tube.

If you use local anesthesia beware of using too much cocain. These patients will stand a relatively large amount of cocain applied to the interior of the larynx, trachea or bronchi where it is not well absorbed but cocain applied to the fauces, pharynx or esophagus is readily absorbed and your patient may have convulsions before you think he is anesthetized.

Have a tracheotomy set ready for instant use with cool assistants ready to help at once. Tracheotomy is almost a minor operation if it can be done deliberately but it is anything but a minor operation if it must be done in a hurry with the patient bleeding profusely as they always do when cyanotic.

Do not be surprised if you sometimes break off a tooth for a patient when doing bronchoscopy, only be sure that the tooth is not inspired to add to your troubles.

Have a working suction apparatus at hand for it will be needed to remove secretions. A Locktite mouth gag is very useful and is the best mouth gag on the market for use in bronchoscopy.

Do not attempt to remove a foreign body without first attempting to learn its location and size. If possible secure a foreign body identical in size and shape with the one to be removed and examine it carefully.

If the foreign body is irregular or if it is fragile it is often advisable to do a preliminary tracheotomy. At this time it can be done with deliberation and without special hemorrhage or other difficulty and the risk from the tracheotomy is almost nothing. It is often advisable if there is embarrassed respiration.

Do not use too large a tube where force must



be used to get it to pass. Edema of the glottis is apt to result and all your efforts be lost. The smaller the child the greater the danger of edema resulting. The smaller the size of tube that can be used the smaller the field of vision. In infants the smallest Jackson tube is apt to be too large and the small Brunings tube insufficiently illuminated. Here you are between the devil and the deep sea.

Because of the danger of edema of the glottis small children should be kept in the hospital and under observation for a day or two after removing the foreign body.

Do not continue the examination long. Better reexamine on another day than have a patient dead from shock and exhaustion. Have an oxygen apparatus in readiness. It may be life saving.

Beware of the general practitioner who has read of the great benefits following bronchoscopy in cases of lung abscesses. He will be disappointed in your results. Lung abscesses that he has operated on and failed to cure, you will be expected to cure by the wizardry of bronchoscopy.

It is true that when the lung has not broken down you may be able to greatly relieve the bronchitis and peribronchitis that sometimes passes for lung abscess but when an abscess has once formed, that is, when there is a cavity, opening and free drainage is just as necessary as it is in abscess elsewhere and who would be content with treating an abscess elsewhere by aspiration through a small tube once daily. Patients make a great fuss over care of abscesses anywhere in the body. How much more will they complain when the treatment is as disagreeable as it must be through the bronchoscope introduced through the larynx. If you doubt it try the simple experiment of passing a stomach tube on yourself once a day—not a stiff metal tube but a soft rubber tube.

Suppose your patient has inhaled a foreign body that is transparent to the x-ray, a peanut kernel for instance. What can you do? Look for it by bronchoscopy without help from the x-ray. How much force can you use with the forceps to grasp it without crushing it? If you do not use force enough to hold it how are you to get it out? If you use a little too much and crush it then what happens?

Suppose your patient has inhaled a bead. How are you going to get it out? Use Blanks

bead forceps of course. Have you such a forcep in your kit? If not where and when can you get it? How much will it cost you? Can you wait for it? When it comes how will you manage to get it to take hold of the bead when you cannot even get a probe to pass the bead? How many nights will you lie awake all night trying to devise some way that will work to get that bead? Will you lie awake all night and then evolve a corkscrew? or will you lie awake another night and evolve something else and then have to wait for the instrument maker to make it for you? Suppose you have a case like I had once where a ten-day old baby swallowed a small safety pin opened to a right angle, where you could not possibly grasp the point and where you could neither push the pin down nor pull it up without tearing the esophagus and where only the smallest tube could be used and that only for the shortest time because the infant became asphyxiated. What would you do? What could you do?

Suppose an Italian child swallowed a beer check. The father insists on being present while you remove it. You run the risk of assassination if you fail and if you succeed you get only a brass disc that you cannot exchange for a cooling drink.

Finally, and this really should have been the first thing, have a definite understanding about your fee before you start to work. It is disgusting to have to bargain with people before attempting to save life and you loathe yourself for doing it but unless you have an understanding first you are apt to get only the foreign body for your fee and not even that if it is at all valuable. When it is all over it seems so easy to the bystanders and "it only took ten minutes. Why should I pay you \$500 for ten minutes work? I have six children. I have to work for my money." You may not be in the least responsible for the begetting of the six children but believe me if you ever do bronchoscopy you too will work for all the money you get from it.

25 E. Washington St.

#### DISCUSSION

Dr. J. A. Cavanaugh, Chicago: Last week I had a case of foreign body in the esophagus. A foreign body had been in this baby's esophagus for eight days. The doctor called me and stated he had tried to remove the foreign body the Saturday before and stopped because he thought he had perforated the esophagus as the tube filled up with blood. I inserted

a Jackson tube without any difficulty and removed the foreign body—it was a five cent piece.

Dr. George W. Boot, Chicago: I think all these remarks have been quite to the point. With regard to the watch, I thought you were going to tell about the case of the woman who swallowed a watch, and when they recovered it, seven years later, it was still running; the motion of the stomach kept it wound up.

### LARYNGEAL CRISIS OF TABES\*

NOAH FOX, M. D.,

CHICAGO

In 1876, Charcot reported two cases of what he called "Du Vertige larynge." His description is as follows:

The patient feels a tickling in the lower part of the larynx, a sort of burning, than a little dry cough, followed by loss of consciousness. He is purple, turgid and presents convulsive attacks of one or two limbs on one or both sides. The attack is short and the patient can resume his conversation. In some cases he has lost remembrance of what occurred during his fall. At times the tickling is very slight and causes simply a dizzy state without proceeding to a fall. At other times it is only breathlessness. He may repeat these attacks 15 to 20 times a day.

Following this report, there have occurred numerous others in the literature under various descriptive titles which seemed to fit the symptom complex noted by the particular observer reporting the condition. So, we find the following titles, all apparently describing the same condition originally brought out by Charcot: *i.e.* laryngeal syncope, laryngeal crisis, bronchial syncope, complete glottic spasm in the adult, laryngeal apoplexy, laryngeal tabes, glottic spasm laryngeal stroke and laryngeal epilepsy.

Up to 1892 when Luc's monograph was written, only about 20 authentic cases had been published. In 1896, however, A. C. Getchell in reporting two cases was able to find 77 others in the literature. Since that date J. M. Hunt, 1898, added two cases, Schadowalt, (1898) reported a death due to this condition. Whalen (1906) reported a case, Casselberry (1905), W. J. Hune (1909), L. T. Gregory, 1920, reported cases. It is evident, that this condition is quite common, though not appearing so frequently in the literature of the last two decades.

In reviewing this subject, it will be seen, that some part of Charcot's original description of the

symptomatology is noted in every case. Getchell in his review of 77 cases up to 1892 found the following variations: Loss of consciousness, 61 cases; fall, 42 cases; mental confusion, 6 cases; dizziness, 7 cases; convulsions, 20 cases; associated with cough, 66 cases; subjective sensations in the larynx, 29 cases; congestion of face, 23; paleness of face, 4. In every case reported following this date the only common symptom seems to be momentary unconsciousness following a paroxysm of coughing.

The theories as to the cause of laryngeal vertigo except those with a tabetic back ground, are varied. Charcot regarded it as analogous to Menieres disease, the superior laryngeal being the afferent nerve.

Gray believed it to be epilepsy. McBride and Weber believed it to be forced expiration with a closed glottis. The theories of McBride and Weber are not tenable, since some of the cases reported did not show signs of suffocation or peripheral vaso-dilation, but were actually pale during the attack. As for it being epilepsy, the age of onset of these patients, *i.e.* all adults, precludes this theory.

Some light has been thrown on this subject by Brown-Sequard who has definitely proven an intimate relation between the larynx and central nervous system, *i.e.* certain reflex arcs whereby shock impulses might pass from the larynx to the cerebrum.

Neusser in his "Disorders of Respiration and Circulation" names some 50 conditions which might cause cyanosis; difficulty in respiration, cough, vertigo and fainting. Any one of these conditions in a patient might simulate the picture of that described by Charcot.

In the light of our new knowledge of syphilis gained in the 20th century it would seem that a syndrome similar to that described by Charcot may appear in early tabetics. Church says that laryngeal crises are tolerably common in tabes, and most neurologists attest to this statement.

St. Clair Thomson says "the term laryngeal vertigo should be reserved exclusively for cases where unconsciousness appears to be clearly independent of the passive congestion caused by the cough, and is attributable to a reflex of laryngeal origin."

It is my belief that many of these cases of luetic origin, because of the mildness of their

\*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Moline, June 1, 1927.



condition, coming to the oto-laryngologist for their cough, are passed by unrecognized. Those not of tabetic origin are possibly rare as previously supposed.

In the 3 cases I am about to report, it will be noted that cough cynosis, etc., are common symptoms, and all have a luetic history.

**Case 1.** J. O., aged 34, white, city detective, came to me with the following symptoms: Paroxysms of cough, coming on suddenly with a tickling sensation in the region of the larynx, lasting sometimes as long as 3 minutes, and ending with violent efforts to breathe, engorgement of the face and neck vessels, dizziness and loss of consciousness, only momentarily. Sometimes he falls but usually, with the onset of an attack, he sits down. These have been present for 9 months. At first they were mild, simulating an ordinary cough, but for the last 6 months have become more severe. Not all attacks terminate with loss of consciousness. He has had as many as 8 attacks a day, and been awakened at night several times. Patient has had several attacks in my office, but never in these has he lost consciousness, though he has become very dizzy. He does have an aura, as though a tickling sensation were creeping up into his eyes.

*Family History*—Negative.

*Past History*—Chancre 14 years ago—untreated. Pneumonia 4 years ago. Has had shooting pains down legs for past 2 years.

*Present History*—Member of police force. Works about 4 hours a day driving about most of the time.

*Physical Examination*—A well nourished white American about 36 years of age.

*Eyes*—Unequal, frozen pupils, Fundus negative.

*Nose*—No pathology noted.

*Ears*—Negative.

*Throat*—Mild injection of pharyngeal and laryngeal mucosa.

*Bronchoscopic Examination*—Revealed no pathology in the trachea or large bronchi.

*Chest*—Lungs, negative; heart, negative.

*Abdomen*—Negative.

*Back*—Negative.

*Extremities*—Negative.

*Reflexes*—Pupillary, A.R. pupil. Romberg, positive. Knee jerks, greatly exaggerated. Arm, tendon reflexes, exaggerated. No areas of anesthesia noted.

*Spinal Fluid*—Lange colloidal gold test shows a tabetic curve. Wassermann, blood and spinal fluid, ++++. Nonne—Ross Jones and Pandey, ++.

*Diagnosis*—Tabes dorsalis with laryngeal crisis.

**Case 2.** L. K., aged 54, merchant tailor, came to office complaining of chronic cough for period of 3 years. About one year ago had tonsils coagulated by family physician for relief of cough. Has been treated by several others for cough. For the last year has had very severe paroxysms of cough which ended in feeling of suffocation and dizziness, but to his knowledge, he has never become unconscious. Blames the greater severity on tonsil operation previ-

ous to which time his paroxysms were only of short duration and not suffocating. Suffers as much at night as during the day, and is unable to tell when an attack is about to start, except for a momentary tickling in the larynx. Attack of coughing lasts 4 to 5 minutes ending in dizziness and a feeling of "floating away." This latter feeling is only momentary. During attack face and neck are engorged, and patient perspires a great deal.

*Family History*—Negative.

*Past History*—Chancre 24 years ago while in German Army.

*Present History*—Negative. Works indoors.

*Physical Examination*—Reveals a fairly well nourished white male apparently about 50 years old.

*Eyes*—Pupils do not react to light, but do to accommodation. Are unequal and irregular. Fundus, negative.

*Nose*—Mild high deflection of septum. No purulent material in nose.

*Ears*—Negative.

*Throat*—Pharynx reveals pharyngeal tonsillar stumps with a great deal of scarring and deformity of adjacent soft parts.

*Larynx*—Negative by indirect examination. (Refused bronchoscopy.)

*Chest*—Lungs, negative; heart, negative; abdomen, negative; back, negative; extremities, negative.

*Reflexes*—Pupillary—typical of A.R. characteristics. Romberg, +. Knee jerks, absent. Arm tendon reflexes, absent. No areas of anesthesia noted.

*Blood Wassermann*, ++++—Refused spinal puncture.

*Diagnosis*—Tabes dorsalis with laryngeal crisis.

**Case 3.** Patient R. B., a white male, aged 43, came to the dispensary complaining of a cough from which he said he has suffered for many years, possibly 25. This cough was short, choppy, and associated with pain in the chest. For the past 6 months has noticed what he believes to be a different type of cough. This is associated with tickling in the larynx, and according to his description is paroxysmal, lasting 3 to 4 minutes and ending in dizziness and a sensation as of fainting. Has had these attacks as often as twice a week, and are about of the same severity now as when first attack came on.

*History, Family*—Negative except that father died of asthma.

*Past History*—Denies chancre or any other venereal disease.

*Present History*—Negative. Has had engirdling pains of severe type with vomiting.

*Physical Examination*—Reveals a very old looking man, for one of 43, who is poorly nourished and looks ill.

*Eyes*—Pupils unequal, irregular and do not react to light. Fundus reveals an early right sided atrophy of the nerve head. Left slightly involved.

*Nose*—Negative.

*Ears*—Negative.

*Throat*—Mild injection of pharyngeal mucosa.

*Larynx*—Negative by indirect examination.

*Chest*—Typical barrel shape asthmatic type.

*Lungs*—Low musical rales all over chest with hyper-resonance everywhere.

*Heart*—Right side enlargement. Loud systolic blow over apex.

*Reflexes*—Pupillary—A.R. pupils.

*Knee jerks*—Absent.

*Rhomberg*—++.

*Blood Wassermann*—+++—Refused spinal puncture.

*Tentative Diagnosis*—Chronic asthmatic bronchitis, mitral regurgitation, tabes dorsales with laryngeal and gastric crisis.

Case 1 was given two courses of 12 injections neo-arsphenamine, and two courses of bismuth subsalicylate. When last seen, the attacks were as numerous as before, but the dizziness and periods of unconsciousness had disappeared.

Case 2 has had one course of 12 injections of neo-arsphenamine and 12 of bismuth without relief.

Case 3 was never seen again after examination.

#### CONCLUSIONS

1. The syndrome, described by Charcot as "laryngeal vertigo" is simulated in the early stages of tabes dorsalis, even though no local gross pathology exists in the larynx.

2. These cases, like those of visceral crisis encountered elsewhere in tabes, do not respond readily to specific treatment.

3. For those cases associated with tabes, where no local laryngeal pathology exists, we should reserve the term "Laryngeal Crisis of Tabes."

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## RELATION OF INDUSTRIAL MEDICINE TO THE PRIVATE PRACTITIONER\*

FRANK L. RECTOR, B. S., M. D.,

Editor, *The Nation's Health*

CHICAGO

The physician in industry has a definite field of work cut out for himself. It reaches over into the field of public health on the one hand and into the sphere of the private practitioner on the other. It also touches closely the activities of the social worker; but in all its relations to other fields it is in no wise in conflict with them, rather in cooperation.

In order to succeed, the physician in industry cannot play a lone hand, neither can the other forces ignore him in carrying out their programs.

The physician in industry has been defined as one who applies the principles of modern medicine and surgery to the industrial worker, sick or well, supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation, and accident prevention; and who, in addition, has an adequate and cooperative appreciation of the social, economic, and administrative problems and responsibilities of industry in its relation to society.

Such a definition denotes inclusiveness rather than exclusiveness and strongly ties in the work of the physician in industry with community problems.

Just how do the paths of the private physician and the industrial man cross? In the first place, if physical examinations are required of applicants for employment many defects will be uncovered for which industry, or at least the particular industry in which the applicant seeks work, is not responsible and for which it cannot

be expected to provide the needed relief. It is here that the man or woman must be referred to his own physician for treatment. Whatever work the private practitioner obtains in this way is so much clear gain, as we know from past experience that the patient would not have sought an examination voluntarily until his condition had become much more serious.

It is now a well recognized principle of industrial medical work that industry is not responsible for illness or accident unless it is related in some way to the worker's employment, provided that equally competent medical service is available in the community.

Because so few people in the working class will seek medical advice until they are, or think they are, seriously ill, the practitioner has little opportunity to render any but a curative service. The industrial physician by calling the attention of the worker to the need for medical care and insisting that the indicated work be done in order to retain his connection with the factory is sending added work to the private practitioner.

Take venereal disease, for instance. In many plants the discovery of an active case of this kind results in a lay-off of the worker until by treatment he is able to resume his work without danger to his fellow workers. As this condition is not of "occupational" origin, the management feels no responsibility for its treatment, but insists that treatment be taken as a requisite to re-employment. The only place to obtain this treatment is a clinic or from a private practitioner.

Industrial medical records show that a large amount of sickness from which workers suffer is referable to the upper respiratory and gastro-intestinal systems. Such conditions frequently require prolonged treatment for which industry seldom assumes the responsibility.

Through the physical examination and other contacts between the worker and the plant medical department a lively interest in health matters is often aroused, an interest that leads the worker to ask for an examination of members of his family. He also wants to know what type of physician is best fitted to meet his particular needs, the reason for certain instruction and advice that may have been given to members of his family, the standing in the profession of certain

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physicians in the community and similar problems, the correct answers to which will make him a more intelligent citizen with a keener appreciation of his private and public health responsibilities. Here again the industrial physician's work reacts to the advantage of the private physician.

It is conceded by impartial observers that, in general, the extension of public health activities has been a tremendous factor in the development of medical specialties, such as pediatrics, otology, laryngology, obstetrics, gynecology, and orthopedics, to mention but a few. This has been due largely to the uncovering of defects among school and clinic groups and the realization of their effect upon the entire human economy.

The industrial physician has a similar opportunity to discover the defects and deficiencies of the workers in his plant. He has an even better chance than any one else outside of an institution for observation and control, for the workers are under a controlled environment for at least eight hours daily. This is a privilege enjoyed by no physician in private practice. This privilege should carry with it the desire to secure for the worker the best possible medical care when the need arises.

I believe that industry can, with justification, provide diagnostic facilities for its workers which will enable an intelligent answer to be given to the questions for which they seek advice. Once the true diagnostic picture is drawn, the patient and findings should be placed in the hands of a reputable physician for further care. This, of course, refers to cases for which the industry is not legally responsible. Industry is entitled to know of the progress of the case and for that reason should be kept advised of treatment, but should not interfere unless the treatment being given is inadequate or wrong. Such diagnostic facilities as are needed can be supplied by industry at a trifling cost, easily absorbed in general overhead, while if a private physician undertook to supply such a service he would find the cost prohibitive and the use he would have for much of the equipment very limited. Furthermore, physicians have too few calls for many kinds of diagnostic work to enable them to keep abreast of the advances in this type of medical practice. The physician in industry who is doing such work daily becomes more expert with

the various procedures and therefore more capable of a correct interpretation of his findings. When such diagnostic facilities are available in a factory, they should be put freely at the disposal of the community practitioners and every possible service rendered that is compatible with the work in hand.

Oftentimes lines of treatment are indicated in a given case which the patient is unable to follow for financial or other reasons. Here industry can step in and without interfering in any way with the work of the physician in charge of the case, render to the patient the needed helpful service to see him safely over the difficult situation.

As a general principle specialists in the various branches of medical practice are not a success as physicians in industry. They are too scientific, too much interested in the symptom-complex and too little interested in the individual. Their function lies in being able to care for the occasional serious cases referred to them by the plant physician and also cases among the friends and dependents of the workers. The physician with a big-hearted interest in his fellow man is the one to succeed in industrial practice. It is always easy in these days of rapid transportation to obtain the services of specialists when needed on short notice. When such cases arise, it will be well for the industrial physician to keep in close touch with the specialist handling the case so as to advise him regarding the relation of the man's work to the treatment being given.

The industrial physician with his experience in diagnosis and diagnostic facilities is often able to render a distinct service to his professional colleague in time of need. By the same token he is often able to render a better treatment to workers, as during the course of time, he sees more cases peculiar to his industry than does any one private physician in the same length of time. Private physicians should recognize the value of this increased experience in the industrial physician just as they recognize it in their colleagues in other lines of medical practice.

For this reason, industry usually avails itself of the opportunity to have as many as possible of its cases treated by the same physician. This is particularly true of those cases for which it is legally responsible, and is one of the principal reasons why the compensation laws in many



states do not grant the injured employee free choice of a physician to treat his case.

Reduced to a plain statement of fact, it is a problem of whether, in the great majority of cases, a physician who sees but few similar cases during a given time can render as adequate treatment as can one who sees many, and who, in addition, has a clear understanding of the occupational environment of the patient.

One of the functions of an industrial medical department is that of prevention of injuries and illness among the workers. Here he can obtain from and render much service to the health officials in the community. Through the worker a message can be carried back into the home and the community. Sanitary reforms can be initiated in the minds of workers who see by example the value of such procedures in their factory environment and who carry the message to those on the outside. Athletic programs, child welfare projects, home culture classes for adults, and many other similar activities can be carried through to a successful conclusion through the cooperation of the physician in industry with the health and social forces in the community.

What I have said has been based on the assumption that there is full trust and a desire for cooperation by all interested groups. Of course, when one group or another will not "play ball" a different story is told. The reason why some industrial health programs have not succeeded as well as was expected was because there was distrust or mismanagement on the part of some one. Industrial health work can be made so cooperative and so mutually helpful to all concerned that there should be no hesitation in asking the support of the private physician, the public health officer and even of the community itself.

If the local physicians will see nothing good in the work, if the health officials will not cooperate in the execution of the medical department's plans, or if the physician in industry is such an intense individualist that he must do all of his work and that of other related interests little progress can be made. But if each one will consider his part in the service which in the end all must render to the industrial worker, it will soon be evident to any right thinking man that here is an opportunity to do a splendid piece of

work touching the social, economic, and physical well being of the individual and the community.

## DISCUSSION

Hart E. Fisher, M. D., Chicago: Dr. Rector, may I at this time commend you for the very able manner in which you have presented your paper on the relation of the industrial medical man to the private practitioner, and may I extend to you my thanks and gratitude for being given the pleasant opportunity of opening the discussion of your paper?

There seems today to exist between the general practitioner and that gentleman known as an industrial surgeon sort of a feeling of antagonism and in many cases I am sorry to say, real animosity. Why should such discord be present any more between these two classes of medical science than should exist between the private physician and the various doctors engaged in the specialties? There are many factors entering into the often found strained relations between these two valuable handmaidens of medical science.

First, misunderstanding on the part of those engaged in private practice as to just why large industries must have medical departments or one or more doctors doing their medical and surgical work as pertains to their employes, and why this work should not be left to the private physician or to the employe's own doctor in case of injuries.

Second, the industrial medical man today is judged by the unsavory reputation that surrounded the medical man engaged in certain industries in the past.

Third, many of the thousands of large industries, even in this enlightened time, have a vague idea of what constitutes industrial medicine and surgery and think all there is to it is having a certain number of doctors working for them at a low compensation to look after their employes in case they are injured, or to give a so-called medical examination of applicants for employment (five minutes physical examination), which is ridiculous, useless and unscientific.

Fourth, the industries themselves have looked on the medical side of their business as red figures, if you please, or as money lost. This results in the employing of medical men who are not competent to give best returns for the small salary paid them. In times of industrial depression in the past, the medical departments were always the first to feel the reduction in personnel and in salary.

Fifth, the employes themselves in many instances in the past had reason to resent the company doctors' activities because they often were the victims of poor surgery at the hands of incompetent doctors, or often held resentment against the doctor because he was a so-called official and represented the capitalistic class.

Last, the organized medical profession classed industrial physicians as contract doctors and said it was unethical.

Is it any wonder then that, with all these misunderstandings and unsavory reputations, feelings of animosity should cause the highly organized, scien-

tifically operated and competently manned industrial medical groups or departments to be classed with those of the past? As civilization advances new fields of endeavor are opened in all walks of life and industry and the advent of the physician in industry must go through the period of suspicion and criticism just the same as confronted other pioneers in medical science who have brought forth something new and of value.

Personally, I have been engaged in industrial medicine and surgery for the past fifteen years with the same group of electrically operated railroads and power companies, representing some 14,000 employes. My position has been very fortunate, indeed, as I had the opportunity of beginning my work with companies who had no medical departments, and was given the right to build up an organization to fit the special requirements of our industry. These fifteen years have been filled with a lot of hard work, mistakes, and a gradually enlarging experience, until today I see visualized what to my mind, is the ideal method of conducting a medical department with the co-operation of the physician in the communities in which we operate. This result has been obtained through the humanness of our President and his associates who have always held paramount the health and welfare of those men and women under them.

Dr. Rector has said defects found in applicants seeking employment, who are compelled to have such defects corrected in order to hold their position in industry, furnish the private practitioner with work with its added compensation which he otherwise would not have had. This is one true fact to which I can attest. Not only does the doctor get the case to correct but his fee is usually assured on account of the employe not wanting any discussion arising in his company due to his failure to keep faith with the doctor. In addition, many times this applicant is a man with a family or relatives and these subsequently become the private physician's patients through the applicants being referred for treatment.

The most important feature to my mind is that the defect found in the applicant, in many cases, is the warning signal of some dangerous condition or malady, and by prompt detection and treatment a future charity case is often avoided, the doctor saved the expense of treating a person who is unable to pay, and the applicant saved as a useful member of society and an economic factor in the community.

Closely allied to examination of an applicant for employment is the regular annual medical survey in which the employe is given a physical examination to detect any condition that has arisen since entering the service of the company. Gentlemen, here is the place where the private physician receives the best the industrial medical man can give him. Out of industry has come the impetus and great value to mankind in the form of periodical medical examinations, in the value of which you are all firm believers today.

Absenteeism from work on account of illness causes many hundreds of times larger losses in dollars and cents than do accidents, and with this in mind and

the fact that good health makes for a safe man at the bench, promotes efficiency which produces more and better goods, and happiness, is the reason that periodical medical surveys have become such an important factor in our economic life today. It is a fact that a man will neglect his body and abuse his health and will only consult his physician when he is too sick to work, as Dr. Rector has said, and his being obliged to have a regular health audit as a requisite of holding his place in industry, brings him to the doctor's office more frequently to learn his state of health. The employes who have developed defects become the property of the private physician who cares for them, and he will receive compensation that he otherwise would not get were it not for the medical department's rule of knowing the condition of health of its personnel. Out of this safety and safe operation grow.

Gentlemen, as regards venereal disease in industry, I have the greatest compassion and feeling for that employe who has been so unfortunate as to contract one of the social diseases. Why? Because I say if a "feller ever needed a friend," it is when he has a venereal disease. In the past, when detected, the poor chap was denied employment, and if employed, was laid off until he was safe to re-employ, but few were re-employed, with the result that this condition was concealed and inadequate treatment often resulted with its distressing sequel. Today, when detected, the employe becomes the ward of a private physician, or if he "doesn't care for that kind of stuff," as I so often hear, he is placed with the specialist of venereal diseases. Here again, the industrial physician, on account of his contact is in a position to see that these venereals are placed where competent treatment can be had. This is a source of revenue that would be lost to the private practitioner and would go to swell the coffers of the quack, the so-called health institutes and drug store doctors.

Dr. Rector's statement regarding the industrial medical department's ability to provide diagnostic facilities has struck a strong response within me and it is here that we are able to lend a helping hand to the private physician in aiding his patient to secure services within his means which he would otherwise go without or obtain at a great financial sacrifice. These services, such as x-ray or radiographic service, metabolism tests, blood and urine tests, are extended to the employe on request from his physician, and as the employe does not have to pay the large laboratory fees, the private physician is in a position to ask a fee commensurate with his services, and the employe pays it without having a lot of accessories, many times negative, tacked onto his bill.

Dr. Rector has not said anything about the health, sickness and death benefits that large industries have so often offered their employes from experience and data which was furnished by the medical department. The moneys paid for illness, injury and death, for which a company is not responsible, means a valuable source of revenue to the private physician who is assured his bills will be paid, permits the patient to



live while away from the job, and in case of death there is a source of income to cover expenses. This health insurance brings the man with a so-called trivial illness to the physician sooner than he would otherwise come if it was not to be had.

In accident work where the employe is injured and the company is liable, it has been forced upon industry to have a highly organized medical department to guard against fraudulent claims for injury, and at the same time makes it essential that the employe secures competent surgical attention to cope with his injuries by the Workmen's Compensation Act, which was a Godsend to the worker. The rate today is too low in a great many States but as it is, it makes the employer responsible to the State that his employes will be taken care of. The medical department surgeon by reason of his seeing a large number of these so-called traumatic cases is better equipped to care for them than is the man who sees a less number in his practice. The policy in my companies is to have the physicians in the communities in which we operate co-operate in personal injury cases, and my department is kept informed of the patient's progress. If a man can deliver the goods he gets the work. If he cannot, then we step in and supervise the treatment. The traumatic work has been the bugbear of the industrial surgeons' existence, because, through the poor results obtained in former years by unqualified doctors, much of the abuse and criticism developed. Insurance carriers also have been the cause of much deserved criticism on account of their tactics by demanding poor work as they paid poor prices. There is a very decided change of attitude today and they are fast coming to the truth that the best is none too cheap in traumatic injuries.

Now, gentlemen, in conclusion, permit me to make a plea to you, who are in private practice, that when you hear complaints of industrial medical men, inform yourselves of the true state of facts before you judge. Call up or call on the industrial man if you have any reason to believe that your prerogatives are being infringed upon. Across the table or desk, get acquainted with him and you will very soon find out if he is sincere or a fraud, and treat him as he merits. Just because a man is specializing in industrial medicine and surgery, do not speak disparagingly of him and his efforts to the employe who may be a private patient of yours, as many times such criticism has acted as a boomerang to the one making the statements.

The industrial man is here to stay and if he is an evil in our midst he will have to be tolerated, for the natural trend of industry is to take an interest in its employes' health, and co-operation with him will parallel the parable of the goose and the golden eggs. If less criticism of a destructive nature is indulged in and more healthy, good-natured co-operation is had between the industrial and private physician, the more good will come out of the contact and the more business will accrue to each. Pressure should be brought to bear on the teaching institutions to incorporate this work in its prescribed courses, and

then the doctor will be better equipped to enter industrial medicine than he has been in the past.

What I have said here does not take in the industrial physicians as a whole but we have within our ranks as many fine medical and surgical men as any of the specialties or other groups. It is true we also have a large number of so-called industrial surgeons of whom we are not proud and whose methods and practices are not pleasant to think about, but the ratio will be about equal in all the other branches of science.

I want to answer one question asked me this morning, May 27, 1927, in my office:

"Dr. Fisher, do you have more responsibility in your industrial work than does the private physician in his relations with his patients, the public?"

My answer I leave you to judge for yourself.

The private physician, on account of the varied nature of his work and the ever-changing clientele, can do things therapeutically and have results of which he is not always proud, without his standing and income being influenced to any great extent. However, the industrial medical man's workshop is often in the plant of the industry, his work and his results are under daily scrutiny by his clientele, the employes, who are always present. If he does a wrong thing, makes an error in treatment, gets poor results, makes an unfair decision, it is soon common gossip in the industrial family, causes discord and reaches the attention of the head executive, and a change is forthcoming. Therefore, the industrial medical man in the practice of his specialty has to be abreast of the times in medical science, a business man and a fellow who can secure the confidence and co-operation of his brother practitioners in his community.

I thank you.

## CIRCUMSTANTIAL EVIDENCE—WHAT IS ITS VALUE?\*

THOMAS P. FOLEY, M. D.

CHICAGO

At first glance the title "Circumstantial Evidence—What Is Its Value?" may appear a misnomer for a medical paper. However, the successful outcome of curable conditions depends on an accurate diagnosis. A correct diagnosis depends on direct evidence. The factors on which an accurate diagnosis is based are the subjective evidence—the true story of the individual's change from health to illness—and the objective evidence the physician obtains on examining the patient assisted by the necessary laboratory findings. The summing up of the subjec-

\*Read before the Logan County Medical Society at Lincoln, Illinois, January 26, 1928.

tive and objective evidence leads to the desired end—the correct diagnosis.

All of these factors deal with direct evidence. Unavoidably in many cases circumstantial evidence enters either 1. in relation to the pathological condition itself or 2. in relation to the facts occurring at the time of the onset of the condition.

Occurring in relation to the pathological condition, circumstantial evidence may be in taking a false story from the patient in place of the true one, listening to some one attending the patient or the always present misguided but enthusiastic friend. Just as dangerous as accepting the false story is for the examining physician to take an obvious condition for the complete answer.

As related to conditions at the time the normal becomes pathological, circumstantial evidence is of as much interest in medicine as in law. To illustrate the unreliability of circumstantial evidence either as to the condition itself or the facts and events preceding the condition, case reports are used. All of these are from the records of the Coroner's office of Cook County and occurred in the regular routine of autopsy examinations at Cook County morgue.

In the course of six months a series of four cases presented the same train of evidence. In every one of these cases prompt and efficient treatment would have saved life. West Madison street, from Canal to Halsted streets, presents not only a psychological but a sociological study. It is the section of Chicago populated by the floating laborer and the derelict. In the geography of the police it is known as the Desplaines Street District. In this group of four cases the police were notified that a man was unconscious in the street. The summons was answered, the man picked up and the run for the County Hospital started. In every instance on arriving at the hospital the man was found to be dead and the body removed to the County morgue. A Police Record accompanies each body delivered at the morgue. Among other things it gives the address in front of which the body was found. A street such as West Madison street abounds in cheap restaurants. On investigation it was found that the address given by the police in each one of this series was that of a restaurant. On autopsy the cause of death in each case was the same—bolus asphyxiation resulting from a piece

of meat lodging in the trachea. Here is where the evidence of circumstances entered. These men were all hungry, practically bordering on starvation. Obtaining the price of a meal they entered the restaurant. Desiring to get as much as possible for their money they invested in beef stew. In the hurry of eating, a section of the meat lodged in the trachea. They began to choke and the attendants, figuring that they had woe enough on their hands in other directions, gave them what is known in the language of the day as "the bum's rush" and landed them in the street where they died.

A case of interest was that of a white male adult who occupied a room in a lodging house. He returned to his lodgings one night in what was considered an intoxicated condition and was assisted to bed. As he did not reappear within forty-eight hours, which was considered a sufficient time to recover from alcoholism, his room was invaded and he was found dead. At autopsy the cause of his death was found to be an acute purulent peritonitis due to the rupture of the appendix and no evidence of alcoholism. Another unnecessary death where circumstances were taken for facts.

About three o'clock on the morning of March 10, 1925, a taxi was west bound in Roosevelt Road. Near Lincoln street the driver saw a man lying at the curb. A half block ahead of him he saw the tail light of an auto and on the assumption that this car had struck the man started in pursuit. The first car going at a high rate of speed soon outdistanced the taxi. The driver then returned to Lincoln street, notified the police and the body was removed to the County morgue. The death was registered as due to a "vampire auto." At autopsy the man was found to have died because of a hemorrhage following the spontaneous rupture of a heart valve. The heart also showed a chronic myocarditis. On identifying the body relatives stated that this man was known to have heart disease; that he had been employed as a night watchman and finished his work sometime after midnight. It appears that on the morning stated he had worked later than customary and in the attempt to reach a street car at the scheduled time was obliged to run. This extra exertion was sufficient to rupture the heart valve and the fatal hemorrhage resulted. If that taxi driver had been success-



ful in stopping the car he pursued the occupants would have been in for some annoyance at least and possibly more trouble than annoyance.

On March 12, 1925, a man was found dead in a bath tub. As he was a well developed young adult without a previous history of disease, his death was assumed to be from syncope and drowning. The autopsy findings were typical of carbon monoxide poisoning and a test of the fluid blood from the heart was positive for carbon monoxide. The report of the death as due to carbon monoxide caused comment because it was stated there was no gas in the bathroom. On investigation it was found that there was not only no gas but also there was no heat. The occupants entering the room to bathe were in the habit of taking a small portable heater with them. The landlady, who discovered the body, stated that on entering the room and finding the body she had removed this portable heater which was out and had failed to notify the police on their arrival.

In May, 1925, a man, 65 years of age, was brought to the County Hospital unconscious. He was bleeding from an ear and spinal puncture gave pure blood in all tubes. He lived fifteen minutes after admission and the cause of his death was given as a skull fracture. At autopsy it was found that he had a fracture of the base of the skull but that in addition he had a spontaneous pontine hemorrhage which was the cause of the fall producing the fracture. A nice case in the question of insurance. If this man had insurance with a double indemnity for accidents a lengthy discussion would have been started as to the actual cause of death.

In June, 1926, a colored woman was brought to the County Hospital on the twelfth and died on the thirteenth. The history was that while crossing the street she was knocked down by an auto. At autopsy she was found to have a fracture of the sternum, fractures of the fifth, sixth and seventh ribs on the right side, and fractures of both bones of the right forearm. In addition to these injuries she had an acute purulent peritonitis following the strangulation of an umbilical hernia producing an intestinal obstruction. After her death the real history came to light. Three days before the accident this woman had acute abdominal pain, followed by nausea and vomiting and complete absence of the passage of

feces or gas. She had no medical attention and feeling that she was getting worse left the house to visit a drug store to buy salts. On the way the auto struck her. Here again the question as to the prime cause of her death—whether the auto or the peritonitis.

On June 17, 1925, two men entered a neighborhood restaurant near Halsted and Congress streets. They craved wheat cakes. The regular cook being absent the proprietor assumed the job. On serving the wheat cakes they looked so good to him that the proprietor ate some. All became violently sick and were rushed to hospitals. On arriving one was dead and the body taken to the County morgue. At autopsy the dark red endocardial hemorrhages due to arsenic were found. On chemical analysis of the organs tests for arsenic were positive. Investigation revealed that the proprietor in mixing the ingredients had mistaken an insect powder for a harmless one.

The next case cited was an important one. A man, twenty-eight years of age, living on the south side in Chicago, was taken sick with symptoms relating to the brain. He was seen by a local physician who diagnosed the condition as due to acute alcoholism. The patient was taken to the County Hospital on August 19 and died August 22. At autopsy the cause of death was found to be a fracture of the skull. After death the complete history was obtained. Three days before the onset of the symptoms which called for medical attention this young man was enjoying an auto ride. He drove up a road in the southern part of the county undergoing repair. Various trucks and impediments were in the road but no warning lights were posted. Hitting an obstruction he was thrown against the top of the auto and rendered unconscious. He regained consciousness within a short time and drove home. From that time, however, he was not normal but his symptoms were attributed to alcoholism.

A man about 70 years of age, classed as a derelict, was picked up by the police for some misdemeanor and sent to the House of Correction. Not appearing in good condition on his arrival he was placed in the hospital connected with that institution. Shortly after admission he developed convulsions and died. His brain, at autopsy, was found riddled with tumors. They

were twelve in number and varied in size from a pea to a hazelnut. Microscopically they were gumma. Here was a man with an organic condition looked upon as a petty offender because he had never had the benefit of an accurate diagnosis.

Here is a case where taking conditions for granted and relying on a previous diagnosis led to a serious mistake. A white man, 65 years of age, was committed to an institution on December 30, 1925. On admission he was found to have an asthma attributed to a chronic myocarditis. Under treatment he went along until March 16. On that day he developed what was considered an asthmatic attack. He received the usual treatment but rapidly became worse and died. At autopsy a piece of meat was found in the trachea. This is one of the cases where an individual under treatment for one condition developed a second and where the supposed obvious was taken for the real cause of his distress.

One morning in the Spring of 1926 residents of a west side district heard the screeching of brakes as a car made a rapid stop. Pulling aside their curtains they saw a small delivery truck in the center of the street and the driver endeavoring to pick up a woman lying at the curb. Hastily telephoning the police the chauffeur was arrested and the woman taken to the County Hospital. The woman lived twenty-four hours after arrival, was in coma the entire time, was bleeding from an ear and the spinal puncture showed pure blood. She was signed out as a fracture of the skull. The chauffeur's story was that he was driving along the street, that this woman stopped on the sidewalk at the curb and then pitched forward into the street and that his efforts were those of a good citizen. This story was received with skepticism. At autopsy the cause of death was found to be a spontaneous cerebral hemorrhage with a large clot in the ventricle and a secondary fracture of the skull following the fall due to the hemorrhage. On these findings the chauffeur was released.

Two colored boys engaged in a dispute over some trivial matter. One was of the build of Jack Johnson and the other looked like a jockey reduced to the last ounce. In the resulting fight the large man fell, was rendered unconscious and taken to the County. The small man went to jail. Three days later the one in the County

died. In the external examination of the body preceding the autopsy a healed laceration of the scalp in the right temporal region was noted. The cause of the death was a brain abscess. This resulted from a butcher knife which had been driven through the skull. Two inches of the end of the knife had broken and was stuck in the brain. The opponent in the fight was held to the Grand Jury, indicted and tried for manslaughter. As the wound in the scalp was healed it was apparent that the fight three days before death could not have been responsible. Also witnesses to this fight testified that the smaller man did not have a knife. On further examination it was learned that the large man had been in a fight two weeks before and that a physician had sutured a laceration of the scalp but had not discovered the section of knife in the head.

To me, the big lesson in all the cases cited is that circumstantial evidence either as to the condition itself or the events preceding the condition is never reliable. We know in securing a history misinformation is frequently given, sometimes with the intent of deceiving and sometimes without that intention. We also know that at times the one outstanding condition is treated and that underlying conditions are overlooked. In conclusion we may safely say that eternal vigilance is not only the watchword of accuracy and liberty but also of a correct diagnosis.

25 East Washington St.

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#### ACUTE ANTERIOR POLIOMYELITIS: DIAGNOSIS AND MANIFESTATIONS IN THE ADULT\*

PETER BASSOE, M.D.

CHICAGO

*Diagnosis.* Anatomically speaking, anterior poliomyelitis means inflammation of the anterior horn of the spinal cord. By common usage, however, the term has come to stand for a specific acute infectious and mildly contagious disease of unknown etiology, which affects the whole central nervous system and its pial covering, but which in the vast majority of cases produces its chief symptoms by a selective affinity for the anterior horns of the cord and the homologous motor nuclei of the cranial nerves. About 95

\*Read before Chicago Medical Society, Nov. 9, 1927.



per cent. of the victims are children under 10 years. Most cases occur during epidemics in late summer and early autumn. The characteristic symptom complex of such anterior horn lesions consists of localized, flaccid, atrophic paralysis of one or more groups of muscles, plus tenderness and pain due to the invariable accompanying meningeal inflammation, slight though it appears under the microscope.

It follows that the diagnosis is easy in the presence of an epidemic and after the onset of localized flaccid paralysis in a child. Difficulties exist when there is no epidemic, when there is little or no paralysis, or very extensive paralysis, or paralysis of a very unusual distribution, and when unusual symptoms are superadded.

In the complete absence of paralysis, proof that a febrile affection is caused by the virus of poliomyelitis can only be given by the production of the typical paralytic disease in monkeys by inoculation of material from the patient, preferably filtered nasal washings. This was done on a large scale in Sweden in 1911,<sup>1</sup> but it is a slow and very expensive method. During epidemics we often hear of a large number of mild grippe-like cases without paralysis. This was particularly true of the Swedish epidemics, but has also been recorded here, as by E. A. Sharp<sup>2</sup> in his report of the 1912 Buffalo epidemic, and by John Rührh. <sup>3</sup> Certain symptoms are considered particularly suspicious. Römer<sup>4</sup> specifies excessive sweating, hyperesthesia, particularly stiffness of the neck by flexion, and others have added leucopenia. Gastro-intestinal forms seem to be common. Examination of the spinal fluid may practically and quickly decide the issue, for an increase in cells and globulins would strongly suggest poliomyelitis, encephalitis, or meningitis, but would not absolutely exclude other acute infectious diseases, as spinal fluid changes have occasionally been met with.<sup>5</sup> It is well to bear in mind that, in the early stage, either pre-pa-

lytic or abortive, polymorphonuclear cells predominate,<sup>6</sup> later lymphocytes. If poliomyelitis and epidemic encephalitis should happen to be epidemic at the same time, it would be next to hopeless to try to distinguish between their abortive types.

In spite of all theoretical difficulties, the chief reason for failure to recognize anterior poliomyelitis at the earliest possible moment is lack of care in testing the various muscle groups and tendon reflexes. The latter are likely to be lost very early in the affected limbs. If the patient is stripped of clothing and carefully examined, and the temperature taken, a correct diagnosis can usually be arrived at on the first appearance of paralysis in case the musculature of the extremities is involved. In ordinary cases the involvement is asymmetrical, and the maximum paralysis is attained in a day or two. Lumbar puncture is of great help as the fluid is practically never normal. This proved true in the cases observed here this year. I had the privilege of seeing several cases at the Anna Durand Hospital and of going over the record of 38 of the 50 cases treated there this summer and fall. A cell increase was found in all, as well as positive Ross-Jones globulin test. In one case, that of a child of one year, the cell count was unusually high, namely 1,265 and 40 per cent. of the cells were polymorphonuclear. In this child the leucocyte count in the blood was only 4,500, while nearly all the others had more or less leucocytosis. The child referred to had only a transient weakness of the legs and recovered completely. Without the spinal fluid examination the diagnosis might have been questioned.

As previously stated the diagnosis may be difficult in certain cases which deviate from the standard type, which is the spinal one. There is a meningeal type with disproportionate neck rigidity, headache and strong Kernig sign which, in the presence of only slight paralysis, especially when limited to the distribution of the cranial nerves, may resemble meningitis. The spinal fluid examination usually quickly settles the diagnosis except sometimes in the case of tuberculous meningitis. If tubercle bacilli are not found, and they are usually not found, the quan-

1. C. Kling, A. Pettersson and W. Wernstedt in "Investigations on Epidemic Infantile Paralysis," published by State Medical Institute of Sweden as a report to the 15th International Congress on Hygiene and Demography, Washington, 1912.

2. Jour. Nerv. and Mental Disease, 1913, 40:289.

3. Am. J. Med. Sci. 1917, 153:178.

4. Epidemic Infantile Paralysis, Trans. by H. R. Prentice, New York, 1913.

5. J. C. Regan, in "The Human Cerebrospinal Fluid." Published by Association for Research in Nervous and Mental Disease, 1924, p. 347.

6. I. Strauss and D. J. Kaliski in "The Human Cerebrospinal Fluid." Published by Association for Research in Nervous and Mental Disease: (1924), p. 280.

tity of sugar is helpful, as it is nearly always low in all forms of meningitis and relatively high in poliomyelitis, though the average is not as high as in epidemic encephalitis. (Regan.<sup>5</sup>) The bulbar form, with paralysis of pharynx, larynx and tongue and the pontine form, with facial paralysis are practically indistinguishable clinically and in some cases even histologically, from the corresponding bulbar and pontine forms of encephalitis. There are two scientific methods of diagnosis in such a case. One is by animal inoculation, but this may be unsuccessful with material obtained during life and at any rate it is too slow to give us the diagnosis until the patient is either dead or well past the acute stage. The other is the neutralization test, i. e., protection of a monkey against a known virus by simultaneous injection of the patient's serum. Otherwise we can do no better than guess poliomyelitis in summer and fall and encephalitis in winter and spring, when one or the other disease is apt to prevail. It is true that in the pontine forms the facial paralysis is more likely to be permanent and associated with reaction of degeneration if the poliomyelitis virus is at fault, but with bulbar involvement either virus is likely to cause death in a few days. There is a similar difficulty when the paralysis strikes the ocular muscles or the muscles of mastication, but such involvement in the case of epidemic encephalitis is likely to be associated with drowsiness and signs of the usual basal ganglion involvement. Then the paralysis is usually less complete in encephalitis and rarely becomes of the degenerative, atrophic type. No amount of enumeration of pros and cons will help very much in the differential diagnosis between these two diseases in the absence of knowledge of their essential tissue behavior. Both probably always involve the whole brain and cord but in the case of encephalitis the meningeal reaction is usually trivial compared with that of poliomyelitis. The virus of the latter has a strict selective affinity for the ganglion cells of the lower motor neurons while that of encephalitis is less exclusive, though spending itself chiefly on the basal ganglia and brain stem. Real paralysis is the rule in poliomyelitis and almost the exception in encephalitis. However, the exceptions are very

troublesome where encountered, especially as there even is a spinal paralysis due to the action of the encephalitis virus on the spinal cord—a poliomyelitic type of encephalitis, just as there are three and probably four encephalitic types of poliomyelitis. We have spoken of the bulbar, pontine and midbrain types, but we may also have to reckon with an upper neuron, hemispherical type, causing spastic paralysis. This is Strümpell's polioencephalitis described by him in a lecture in 1884, based on 24 cases in children.<sup>7</sup> While some doubt was thrown on Strümpell's theory by the great rarity of this type during the large epidemics in Scandinavia and North America twenty years ago the English epidemiologist, A. S. MacNalty,<sup>8</sup> in a review of the subject in his recent book, agrees with Strümpell. He mentions the peculiar epidemic at Broadstairs, England, in 1926, with 32 cases of polioencephalitis, only 17 of the spinal form, and 6 mild or abortive. As to the acute ascending type with rapid successive paralysis of legs, trunk, arms, larynx, pharynx, and finally of respiration and heart's action, I will merely state that nearly all so-called Landry's paralysis is hyperacute and virulent poliomyelitis. When its course is relatively slow the symmetry of the involvement produces a picture quite similar to multiple neuritis. In the latter the distal portions of the extremities usually are more involved than the proximal, the trunk is little involved, and there is likely to be impairment of sensation of glove and stocking distribution. Again spinal puncture helps us out, for in ascending poliomyelitis we get increase in cells and globulin while the fluid in multiple neuritis remains normal. Among difficulties less frequently encountered I may mention differentiation from the very rare acute purulent osteomyelitis of the spine. Pain and tenderness are more extreme, fever and leucocytosis usually higher, and the preparalytic stage longer than in poliomyelitis. The paralysis is usually of the spastic, transverse myelitic type and associated with sensory loss, but nevertheless mistakes are made, as in a case reported by Dr. E. W. Ryerson,<sup>9</sup> where a neurologist first had made a diagnosis of poliomyelitis and on the

7. Jahrb. f. Kinderheilk. 1885.

8. Epidemic Diseases of the Central Nervous System, London, 1927.

9. Arch. Neurol. and Psychiat. 1922, 7:270.

5. I. c. p. 338.



appearance of a transverse cord lesion changed it to Pott's disease. Early correct diagnosis in such cases is important as life usually is lost unless operation is performed promptly. When the lower thoracic region of the cord is affected in poliomyelitis the resulting tenderness and rigidity of the abdominal muscles have led to useless laparotomies. Isolated paralysis of the diaphragm or neck muscles as described by Irving M. Snow<sup>10</sup> naturally produces startling clinical pictures not easily associated in one's mind with poliomyelitis except during an epidemic.

#### MANIFESTATIONS OF POLIOMYELITIS IN THE ADULT

The idea that the poliomyelitis of adults is something apart from that of children has died hard. Even in the latest German edition of Oppenheim's Textbook (1923) a separate chapter is devoted to the "poliomyelitis anterior acuta adultorum," but it is admitted that no essential difference exists. The splendid work by Wickman in Sweden and Harbitz and Scheel in Norway during the large epidemic in these countries twenty years ago settled two previously doubtful questions, namely, that the adult and infantile forms are identical, and that so-called Landry's paralysis in the vast majority of cases is acute poliomyelitis of ascending type. As the latter is relatively frequent in adults and usually fatal, its inclusion under the heading of poliomyelitis raised the percentage of incidence in adults and raised the mortality figure very materially. Of 1025 cases collected by Wickman<sup>11</sup> in 1905, 220 were in persons over 15 years of age. The mortality in children under 12 years is given as 11.9 per cent., that in persons over 12 years as 27.6 per cent. He quotes Leegaard's statistics of 577 cases from Norway with a mortality of 12.4 per cent. in 404 cases under 15 years, and 25.8 per cent. in 132 cases over 15 years of age. Among the 9,000 cases in New York City in 1916 only 1.7 per cent. were in persons over 16 years of age but of 4,168 cases in the state outside of New York City this percentage was 10. In the up-state cases the ten per cent. in adults furnished 19 per cent. of the fatalities. H. L. K. Shaw,<sup>12</sup> who gives these figures, quotes Frost as

stating that this has been the experience elsewhere and Shaw offers this explanation: "It seems not unlikely that the limitation of poliomyelitis in urban epidemics almost entirely to children may be due to the fact that adults had developed a certain degree of immunity through mild and perhaps unrecognized attacks in their early years; while the persons in more sparsely settled areas, who had been less exposed to the contagion of the disease in their childhood, had not acquired the degree of immunity which would render them able, as adults, to resist the infection when present in epidemic form."

Observers agree that the disease in the adult on the whole is more severe, both as to general febrile reaction, extent of paralysis, and above all, the greater prevalence of the acute ascending type. On the other hand, the adult has the great advantage of having attained his full growth so the affected limbs will not become too short from lack of further growth as in the case of children. It would be tedious to recite the symptoms and clinical forms in the adult, as they are the same as those seen in children. It is probably true that even more atypical and difficult cases may be seen in adults. I may thus mention cases with an acute transverse lesion, motion being lost below a certain level and the reflexes increased. Such a case in a girl 18 years old is described by B. Sachs.<sup>13</sup> The patient recovered completely, but the diagnosis of infection with the virus of poliomyelitis was rendered highly probable by a positive "neutralization test." A similar case in a woman of 22 years, observed at Mason City, Iowa, is related by John F. Anderson and Wade H. Frost,<sup>14</sup> also with positive neutralization test. In this case, sensation was preserved, while in Sachs' case it was lost, making the picture of transverse myelitis complete.

Another baffling symptom is optic neuritis. In 1889, Achard and Guinon described a combination of optic neuritis and spinal paralysis which Devic in 1894 called "acute neuromyelitis optica," and other cases have been reported by French authors. These are reviewed in the book of F. De Lapersonne.<sup>15</sup> A case in a boy, 18 years old, was recently reported from Boston by Ralph

10. Jour. A. Md. A. 1910, 54: 1929.

11. Handb. d. Neurologie (Lewandowsky), Vol. 2, p. 813. Berlin, 1911.

12. Jour. A. M. A. 1917, 69:167.

13. Jour. Nerv. and Mental Disease, 1912, 39:747.

14. Jour. A. M. Ass. 1911, 56:663.

15. Manuel de neurologie oculaire, 2nd ed. p. 329. Paris, 1923.

K. Ghormley,<sup>16</sup> who reviews the scant literature outside of the French reports. In a case reported by Wickman, with paralysis of both legs, abdominal muscles, left arm and left external rectus, and blurred discs necropsy revealed round-celled infiltration in the pia of the under surface of the chiasma. In a recent article on neuromyelitis optica Bouchut and Dechaume<sup>17</sup> describe a case with necropsy and express the opinion that the condition is a manifestation of epidemic encephalitis rather than of poliomyelitis.

Among adult cases seen this year was a man of 36 years, under the care of Dr. Ralph C. Brown. While in New Mexico in August this man developed fever, headache, pain in the neck, and in four to five days, pain in the legs. Ten days after the onset the left leg gradually became weak. The left ankle reflex was absent, knee reflex weak. The weakness increased for a week or so, atrophy set in and the pain remained severe for over a month, then the symptoms began to subside. The cell count in the spinal fluid was 100, globulin positive. This man's son, 9 years old, was taken ill a few weeks later with partial paralysis of the palate and pharynx and recovered in two weeks. Among the 38 cases at the Durand Hospital were three adults, all severe. One was a woman of 23 with paralysis of both legs, and partial of the left arm. The cell count in the spinal fluid was 255. One was a man of 19, with paralysis of the throat only. Tube feeding was necessary, and still was when he left the hospital after two weeks. The third patient, a girl of 17 years, had paralysis of both legs. In the case of a woman of 25 years, seen last April with Dr. Geo. Dick, I at first glance suspected that the symptoms were due to an injury, for after an awkward dive in a tank she complained of pain and stiffness in the neck. In a few days there were fever, nystagmus, positive Kernig's sign, followed by weakness of the neck muscles, including the trapezius, and also of the deltoids and pectorals, more so on the left side. I saw her a month after the onset, and some atrophy of the trapezius was obvious. Sensation was normal. In a boy of 16 years seen this summer, with the typical appearance of partial atrophic paralysis of the left arm, the onset had been very gradual in the course of about three weeks and entirely without constitutional symptoms. Slowness of onset, with at times a veritable subacute course, is a feature to be reckoned with in the adult.

#### COMMENT

I am fully aware that my remarks on the diagnosis of poliomyelitis may have added further to the confusion which exists in the minds of many. In particular, if you expected from me clear directions for differential diagnosis between atypical cases of epidemic en-

cephalitis and poliomyelitis you have been disappointed. I read a similar paper on poliomyelitis before the North Side Branch of Chicago Medical Society in 1912, and it was easier to write one then when we did not have to consider epidemic encephalitis. Our state of knowledge of infectious diseases of the nervous system is like that of pulmonary infections prior to the discovery of the tubercle bacillus. Let us all do our bit to facilitate and aid in some way or other more and more research work in this field.

#### CHRONIC DUODENAL ILEUS\*

EDWIN M. MILLER, M.D.

CHICAGO

The subject of chronic duodenal ileus is not a new one. As far back as 1849, it was clearly described and well established as a pathological entity, but it is only in recent years, in fact, since 1907, when Staveley and Finney of Hopkins devised a rational method for its treatment that a general interest in this condition has become aroused, an interest, however, which thus far seems largely confined to the gastrointestinal clinics and not as yet felt by the profession at large.

As is well known, chronic obstruction of the duodenum may occur in more than one place and may have more than one cause. The usual and by far most frequent site near the pyloric ring is familiar to all. It may, but seldom does, occur in the second or descending part either from a congenital band or from adhesions stretched across between the gallbladder, duodenum and transverse colon. It is in the third or retroperitoneal portion, however, that we find the type of obstruction that is not so generally recognized and to which I desire to confine my remarks.

The *cause* of the condition seems well defined. In the light of numerous reports from the autopsy room and the findings at many an exploratory operation, the etiology in most cases can be directly traced to the fact that in the embryologica rotation of the bowel the duodenum in its third or retroperitoneal part comes to occupy a precarious position in the angle between the root of the mesentery of the small bowel in front and the aorta and spinal column behind, a position where the size of its lumen may be constantly or intermittently subject to change by forces which alter the acuteness of

16. Jour. A. M. A. 1925, 84:570.

17. Ann d'anat. path. April, 1927.

\*Read before the Section on Surgery, Illinois State Medical Society, May 31, 1927.



this angle, either from behind, as in lordosis of the spine, or from in front, as from ptosis of the small bowel, transverse colon or of the stomach and abdominal viscera in general, all of which exert a downward traction on the root of the mesentery.

The effect of any interference with the normal calibre of the duodenum at this level as far as the production of *symptoms* is concerned naturally depends upon the degree of narrowing obtained, its duration, and whether constant or intermittent in character. The facts are that the intermittent occurrence of symptoms is an outstanding feature of the usual clinical picture and is therefore strongly suggestive of an inconstant variation from the normal. When the degree of obstruction is but slight the sole complaint may be a slight nausea and a feeling of fullness after meals. In a more advanced case this nausea becomes distressing and is accompanied by a disagreeable epigastric pain, from which the patient may find relief either by forced vomiting or a change of posture to the recumbent prone position. In an extreme case all of these symptoms are increased, coming on as severe acute attacks often of sudden onset, ushered in by excruciating pain, violent nausea and biliary vomiting, attacks which may continue for hours or even days at a time, subsiding gradually and leaving the patient in a profound state of exhaustion.

From the point of view of *diagnosis*, chronic duodenal ileus is of more than usual interest, in that it may so closely simulate the clinical pictures produced by the more common lesions of the upper right abdomen, viz: disease of the gallbladder, ulcer of the stomach or duodenum, pancreatitis, and kidney colic. In fact, it is only after first ruling out all of these first that one's attention is seriously drawn to the probability of the lower duodenum as being the real seat of trouble. True it is that at first glance, the general build of the patient, with the long narrow trunk and relaxed abdominal walls may be highly suggestive, and the statement of the patient, often volunteered, that his distress after meals is relieved by lying down, may be an important bit of evidence, yet it is only by the finding through the fluoroscope of an abnormal dilatation of the duodenum, and an unquestionable delay in the emptying of its contents, that a diagnosis can safely be made. For that reason the true condition may at times be easily over-

looked, because in the interval between attacks the normal relations may have been reestablished and no dilatation of the duodenum observed.

Having once arrived at a diagnosis, the *treatment* obviously must depend upon the severity of the case. If the symptoms are of mild degree it is within the range of possibility that by careful attention to the diet and by putting on enough fat to increase the support of the abdominal viscera the more radical measures may effectively be forestalled. In a well-defined case however, in which a definite chronic obstruction exists and gives rise to serious symptoms, nothing short of surgical relief will suffice.

For the rational method of operative treatment we must go back to the year 1907, when Staveley of Hopkins, realizing the futility of the long advocated gastroenterostomy devised a direct anastomosis between the dilated part of the duodenum and the jejunum, making the union through an opening in the transverse mesocolon. For this he is deserving of credit, especially since the result was successfully accomplished by the use of the Murphy button. Since then the procedure has become well standardized, to such an extent, in fact, that it carries with it no more risk than the ordinary anastomosis between the jejunum and stomach.

By way of emphasis, let me conclude that chronic duodenal ileus has become well established, both as a pathological and a clinical entity, just as definitely as chronic disease of the gallbladder or ulcer of the stomach. It probably occurs rather frequently, much more frequently perhaps than most of us suspect. The diagnosis can be made with certainty, as great a certainty as can pyloric stenosis or chronic obstruction elsewhere in the intestinal tract. Its treatment is rational, well defined, and safe. The results, as far as I have been able to observe, are as striking as one sees anywhere in the field of clinical medicine.

952 N. Michigan Ave.

#### SCRAMBLED ADVICE

Two correspondents wrote to a country editor to know, respectively, "The best way of assisting twins through the teething period," and "How to rid an orchard of grasshoppers."

The editor answered both questions faithfully, but unfortunately got the names mixed, so that the fond father was thunderstruck by the following advice:

"If you are unfortunate enough to be plagued by

these little pests the quickest means of settling them is to cover them with straw and set the straw on fire."

The man bothered with grasshoppers was equally amazed to read:

"The best treatment is to give them each a warm bath twice a day and rub their gums with bone-set."  
—*Practical Druggist*.

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## Society Proceedings

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### ADAMS COUNTY

June 20, 1928. This was the annual picnic meeting of the society. It was held in Camp Irwin at Martindale. In spite of a very hard rain on the previous day and throughout the night and early morning, the attendance numbered 77.

The members began to assemble at about 10 A. M. and the morning hours were occupied with horse-shoes and social gatherings. At 1 P. M. the caterer, Clyde Collins, served a very bountiful chicken dinner. After this all adjourned to gather on the lawn of the Irwin Camp to listen to the speakers of the day. Dr. W. H. Baker, President of the society, acted as chairman. The Honorable Charles E. Weems, Mayor of Quincy, gave a few words of welcome. He was followed by Dr. Harold Camp, Secretary of the State Society, who spoke on the value of the Illinois State Medical Society, to the physician. Dr. C. D. Center then conducted a conference among the representatives of the various societies in the Sixth Councilor District. The Secretary of each county that was present was called upon to relate the troubles of each organization, an effort being made to extend the help of the State Society to any county organization that needed assistance. A pledge was received from the Brown County representatives to organize a society there. Dr. John D. Neal of Springfield, Chairman of the Legislative Committee of the State Society, gave a splendid address relative to the value of medical organization and legislative problems. Dr. H. W. Smith of Roodhouse, a candidate for the Illinois State Legislature, made a few remarks relative to his campaign and asked the assistance of any doctors present who may reside in his district. Dr. J. P. Simonds of Chicago, Vice-President of the State Society, made a few remarks in the place of the President of the Society, Dr. Tuite, who was unable to attend because of illness. The concluding talk was made by Dr. F. O. Fredrickson of Chicago, President-elect of the Illinois State Medical Society. He praised the work of the Adams County Medical Society and was especially appreciative of our Bulletin.

At the conclusion of the meeting, cards and other forms of social intercourse were enjoyed and at about 5:00 p. m. a fish fry was relished by all who had remained until that hour. The meeting was enjoyed by all those present and in consideration of the weather, the attendance was very gratifying.

HAROLD SWANBERG, M. D., *Secretary*.

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## Marriages

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FRANCIS PEERY HAMMOND, Chicago, to Miss Marguerite Helen Conrad, May 26.

HOWARD JACK LEVINE to Miss Edith Chiprin, both of Chicago, June 10.

BERNARD PORTIS to Miss Helen Abt, both of Chicago, May 26.

---

## Personals

---

Dr. Hugh H. West has been elected president of the Elgin Physicians' Club for the ensuing year.

Dr. Elmer W. Mosley has been appointed chief police surgeon by Police Commissioner Hughes to succeed the late Dr. George Hunt, who held that position for about sixteen years.

Dr. Jonathan L. Wiggins, East St. Louis, has retired after more than fifty years of practice, and will make his home in La Jolla, Calif. A banquet was given in his honor, June 1, by his associates.

Dr. Arthur H. Gollmar, after practicing medicine at Kankakee for about fourteen years, has accepted a position with the state welfare department as a member of the staff of the state hospital at Jacksonville. Previous to his departure he was guest of honor at a dinner given by his associates and friends.

Dr. Horace B. Dunn, Rockford, received a medal, May 17, from the British government for his assistance in rescuing passengers of the British ship Worcestershire which was sunk by a submarine off the coast of South Africa in 1917. Dr. Dunn was serving in the capacity of a civilian physician on board at this time.

Almost the entire population of Smithton turned out to honor its only physician and former mayor, Dr. Gustavus G. Bock, May 27, on the occasion of his seventieth birthday and the forty-fourth anniversary of his marriage. The celebration marked an epoch in the history of the village, according to the Belleville *Advocate*. Preparations went forward quietly for several weeks. The ceremony opened with speeches and songs by local talent and ended with a luncheon prepared by the women of the village. Town-



ship Supervisor Joseph Miller, who presided, reviewed briefly the life of Dr. Bock and commended him for his work for the community. Dr. Bock came to Smithton in 1878 with his father, who was a practicing physician at that time, and after graduating from Washington University Medical School, St. Louis, practiced with his father. He was the mayor of Smithton for about twenty-five years, and is credited with having had built the first concrete bridge in that part of the county.

Doctor and Mrs. Arthur M. Corwin of Chicago sailed June 30 for a two months tour of Germany, Austria and France.

## News Notes

### THE AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held in Minneapolis, Monday, June 11, 1928. Forty-nine applicants were examined—forty-six being granted certificates.

The Board will hold an examination in New York City, Friday, October 12, 1928, and in St. Louis, Monday, October 15, 1928.

Those wishing to come before this Board, please advise with

Dr. W. P. Wherry, Secretary,  
1500 Medical Arts Building,  
Omaha, Nebraska.  
*H. P. Mosher,*  
President.

At the annual meeting of the Chicago Pediatric Society held on May 15, 1928, at the Medical and Dental Arts Club, the following officers were elected for the ensuing year: president, Maurice Blatt; vice-president, William McClure; secretary, Joseph K. Calvin; treasurer, Gerard Krost; editor, Clifford Grulee; executive committee, George Edwin Baxter, Harrold Bachman and Henry Irish.

—A \$1,000,000 St. Therese Hospital is under construction at Waukegan; the steel work was complete in march.

—The remodeled People's Hospital, which was moved for the widening of Twenty-Second Street, recently, was opened, June 10, at 255-261 West Twenty-Second Street.

—Ground was broken, June 12, for the new \$1,000,000 Bobs Roberts Memorial for Children for the University of Chicago, Fifty-Ninth Street and Drexel Avenue.

—Dr. Earl B. Miller, Quincy, has resigned as director of the Adams County Tuberculosis Sanatorium, and the institution is being conducted by a staff comprising Drs. Grant Irwin, Richard A. Harris and Milton E. Bitter, all of Quincy. Dr. Bitter has recently been reelected house physician for the Anna Brown Home for the Aged of Quincy.

—The council of the Chicago Medical Society has appointed a "medical policy commission" comprising one member from each branch and a chairman, to be appointed by the chairman of the council. The commission is to function for three years or more, and Dr. Edward H. Ochsner was appointed chairman.

—The \$150,000 addition to St. Elizabeth's Hospital, Belleville, will be dedicated, July 19, when the building will be open to the public. The old hospital building is to be modernized and made fireproof. The new addition increases the capacity of the institution from eighty to 200, providing a maternity ward, operating rooms, administrative offices and thirty-five private rooms.

—The Catholic Diocese of Chicago has purchased the John B. Murphy Hospital, 620 Belmont Avenue, for about \$400,000, it is reported, and it will be operated by the Sisters of Mercy, who own and operate the Mercy Hospital. The John B. Murphy Hospital was built above five years ago as a memorial. It is a four-story building with two nurses' homes and grounds of 200 feet frontage. The capacity is 101 beds.

—The eighty-first semi-annual meeting of the Aesculapian Society of the Wabash Valley was held at Danville, May 31. Among the speakers were Drs. Charles E. Ragan, Terre Haute, Ind., on "Recognition and Prevention of Threatened Shock During Anesthesia"; Leslie H. Dunham, Danville, "X-Ray Diagnosis of Chronic Appendicitis"; Thomas O. Freeman, Mattoon, "State Medicine," and John M. Dodson, Chicago, "What the Medical Profession Has Not Done and Why." This is said to be the oldest medical society west of the Alleghany Mountains.

—The Women's and Children's Hospital of Chicago, which is erecting a new building at Ashland Boulevard and Maypole Street, laid the cornerstone, June 14. Among the speakers were Maud Slye, University of Chicago; Dr. William A. Evans, Northwestern University Medical School; Dr. Clara Ferguson of the hospital staff; Rabbi Louis I. Mann; Father Frederic C. Seidenberg of Loyola University; Carter Harrison, and Judge Mary Bartelme; Mrs. Charles Moody, president of the board of directors of the hospital, presided. This, the second oldest hospital in the city, is at present at 1712 West Adams Street.

## Deaths

ALBERT C. BERRY, Chicago; Medical College of Ohio, Cincinnati, 1876; a Fellow A. M. A.; aged 76; died, May 27, of myocarditis and nephritis.

SYLVAN GABRIEL COHEN, Chicago; University of Illinois College of Medicine, Chicago, 1903; aged 52; died, May 6, at the American Hospital, of lymphosarcoma of the mediastinum.

THOMAS WARNER DAVIDSON, Springfield, Ill.; Keokuk (Iowa) Medical College, 1892; aged 63; died, May 14, in St. John's Hospital, of carcinoma of the liver.

GILBERT DODDS DRENNAN, Woodhull, Ill.; Northwestern University School of Medicine, Chicago, 1902; member of the Illinois State Medical Society; aged 52; died, May 5, of coronary thrombosis.

JAMES A. DUNLAP, Mechanicsburg, Ill.; Hahnemann Medical College and Hospital, Chicago, 1878; aged 81; died June 4.

AUSTIN W. HOBART, Chicago; Hahnemann Medical College and Hospital, Chicago, 1894; aged 57; died, May 19, of an infection following a scratch on the thumb inflicted four months ago.

WILLIAM TALMADGE HUGHES, Oak Park, Ill.; Rush Medical College, Chicago, 1909; a Fellow A. M. A.; aged 51; for two years on the staff of the West Suburban Hospital, where he died, May 17.

GEORGE C. HUNT, Chicago; Rush Medical College, Chicago, 1885; for eighteen years chief surgeon for the police department; aged 60; died, April 30, at Miami, Fla., of pneumonia.

EUPHRATES G. HUTSON, Benton, Ill.; Missouri Medical College, St. Louis, 1878; also a druggist; aged 78; died, May 1, at Los Angeles, of chronic nephritis.

CHARLES B. JOHNSON, Champaign, Ill.; Medical College of Ohio, Cincinnati, 1872; a Fellow A. M. A.; past president of the Illinois State Medical Society; aged 84; was killed, May 31, when the interurban car in

which he was riding collided with another; a son, Dr. George T. Johnson, of Terre Haute, Indiana, was killed in the same accident.

JOHN WILLIAM KAIL, Chicago; Bennett Medical College, Chicago, 1913; member of the Illinois State Medical Society; served during the World War; on the staff of the American Hospital; aged 53; died, May 13, at his home in Highland Park, Ill., of septicemia.

BERNARD GERSON KATZ, Chicago; College of Physicians and Surgeons, Chicago, 1903; a Fellow A. M. A.; on staff of the North Chicago Hospital; aged 47; died, May 31, of pneumonia.

WILLIAM T. KNOX, White Hall, Ill.; Missouri Medical College, St. Louis, 1896; member of the Illinois Medical Society; aged 60; died, May 18, at St. John's Hospital, Springfield, of diabetes mellitus.

LUCIAN SENECA LAMBERT, Galesburg, Ill.; Miami Medical College, Cincinnati, 1869; Civil War veteran; aged 86; died, April 27, at St. Mary's Hospital, of influenza and senility.

JOHN THEODORE McDONALD, Chicago; Loyola University School of Medicine, Chicago, 1924; a Fellow A. M. A.; aged 30; died, March 26, of pneumonia.

JAMES B. MILLER, Marion, Ill. (licensed, Illinois, 1895); aged 71; died, May 6, at the Herrin (Ill.) Hospital, of pneumonia.

HARRY G. RAND, Chicago; Chicago Medical School, 1922; aged 34; died, May 7, of subdural hemorrhage as a result of being bounced against the top while riding in an automobile.

WILLIAM HAMMOND CROSS SMITH, Godfrey, Ill.; Long Island College Hospital, Brooklyn, 1889; a Fellow A. M. A.; superintendent of the Beverly Farm, Inc.; past president of the American Association for Study of Feeble-minded; aged 68; died, April 26.

HARRY CHARLES THON, Woodstock, Ill. (licensed, Illinois, 1899); formerly on the staff of the Woodstock Hospital; aged 50; died, April 10, of heart disease.

JAMES MATHEW THORNER, Carthage, Ill.; Keokuk (Iowa) Medical College, 1895; aged 61; died, May 22, of cerebral hemorrhage.

RUDOLPH HEINRICH VON KOTSCH, Chicago; Hering Medical College, Chicago, 1899; aged 58; died, June 15, of lobar pneumonia.

JAMES ELDRIDGE WATSON, Pekin, Ill.; Bennett Medical College, Chicago, 1911; formerly health officer of Pekin; on the staff of the Pekin Public Hospital; aged 60; died, May 12, as the result of a cerebral hemorrhage.

ROBINSON RICHARD WHITESIDE, Moline, Ill.; Northwestern University Medical School, Chicago, 1903; aged 65; died, May 23.

WILLIAM CROSGROVE WILLING, Chicago; Hahnemann Medical College and Hospital, Chicago, 1892; aged 57; was found dead in bed, May 3, of myocarditis and arteriosclerosis.



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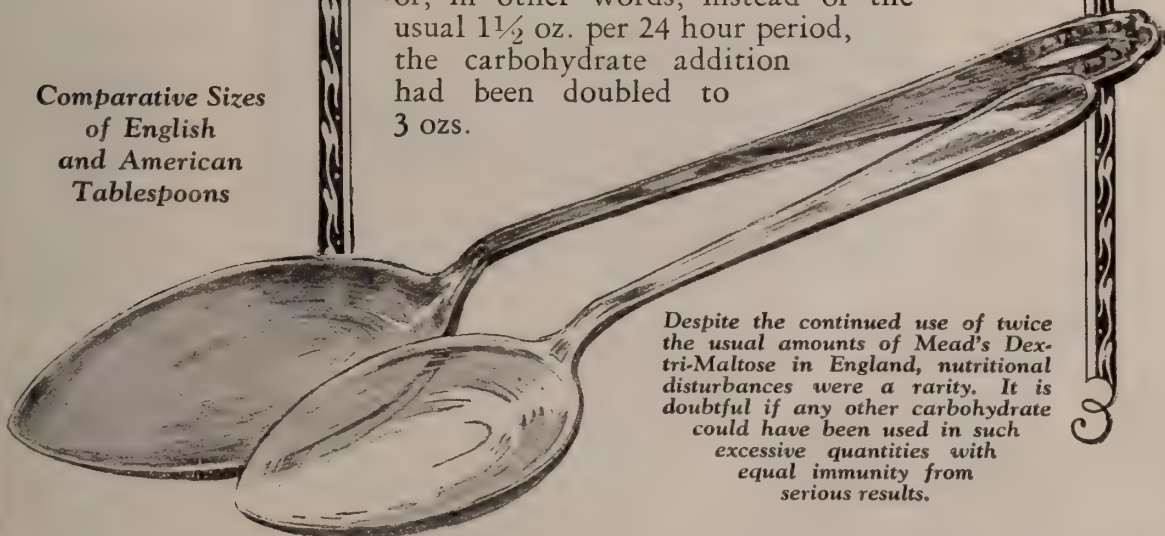
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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 85

### ORIGINAL ARTICLES

Present Day Views on Goiter from Standpoint of the Surgeon. *David C. Straus, M. D., Chicago*..... 101

Report of Meeting of American College of Physicians. *Samuel E. Munson, M. D., Springfield, Ill.*..... 110

Clinical Manifestations of Endurance (Marathon) Dancing. *Max Thorek, M. D., Chicago*..... 114

Chorea: Clinical Observations and Study. *Jesse R. Gerstley, M. D., Chicago*..... 117

Problems of the Roentgenologist. *H. A. Elkins, M. D., Mt. Carmel, Ill.*..... 122

X-Rays in Medicine. Facts and Fancies. *Edw. S. Blaine, M. D., Chicago*..... 123

Earliest Syndromes of Pulmonary Tuberculosis. *John Ritter, M. D., Chicago*..... 126

Epilepsy, Cause and Treatment. *R. A. Ashbaugh, M. D., Kankakee, Ill.*..... 139

Surgical Treatment of Pulmonary Tuberculosis. *Carl A. Hedblom, M. D., Chicago*..... 134

Trachoma: Review of Literature. *Joseph S. Waldman, M. D., Herrin, Ill.*..... 139

Injuries to the Mesentery. *Carl E. Black, M. D., Jacksonville, Ill.*..... 146

Teaching Clinic. *Karl Koessler, M. D., Chicago*..... 147

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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No. 2

## ILLINOIS MEDICAL JOURNAL

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## Editorial

### IS THE UNIVERSITY OF ILLINOIS INTENDING TO ENTER INTO THE PRACTICE OF MEDICINE?

At the second special session of the Fifty-fifth Illinois Central Assembly in 1928 there was introduced by Thomas Curran what was known as House Bill No. 2 and that seemingly was an attempt at state participation in the practice of medicine, through the medium of the University of Illinois' control of all hospitals in the state.

Such power, if vested in this tax-supported university or in any similar institution anywhere, will effect the greatest menace against the future of medical practice not only for the United States but for civilization.

Judge for yourself the threat contained in the bill through its exquisite evasions. Harmless enough on the face of things the bill when dissected proves to have the virulency of an adder. You have to feel the sting to know that the fang is there.

It will be noted from perusing the bill as printed below that this bill turns over the group hospitals on Polk street, Chicago, to the University of Illinois from the Department of Public Welfare.

For those unfamiliar with conditions it may not be amiss to set forth a few conditions as now existent.

"Under the Lowden administration with Thorne as Director, the University of Illinois was unable to get an appropriation to do this work so Thorne requested an appropriation of \$3,000,000 from the legislature to erect this building which was then to be used by the different State Departments and also by the University of Illinois. Thorne entered into an agreement with the University of Illinois by which they were to complete the buildings, appoint all employees, make all regulations and the Welfare Department to pay the bills.

"At the present time there is housed in and

working from this building the University of Illinois Medical School, the Department of Health; Doctor Adler Institute; and the head of the research for Mental diseases which used to be headed by Dr. Singer. The last eight years the Department of Public Welfare under Judge Jenkins and his successor Mr. Ide have resisted all efforts of the University to manage and control this group of hospital buildings while giving them every aid and facility which they requested for caring for about 150 patients and all other teaching facilities necessary to the medical school.

"It is against public interest that the University control these buildings, for in that case they are responsible to nobody but the Trustees, and representatives of the people—the legislature—will have nothing to say. The Board of Trustees have always been a carefully selected group who are amenable to the Alumnae Association and dominated almost by the teaching group who were on the payroll of the University.

"State medicine will prevail in Illinois with a rush, for the University has everything to say in this if this control business goes through."

The following is the Bill:

Second Special Session, 55th G. A.  
HOUSE BILL NO. 2

1 Introduced by Mr. Curran, May 15, 1928.

2 Read by title, ordered printed and referred to Committee on Appropriations.

#### A BILL

For an Act conveying the Research and Educational Hospital to the Board of Trustees of the University of Illinois and providing for its maintenance and operation.

*Be it enacted by the People of the State of Illinois, represented in the General Assembly:*

SECTION 1. All the right, title and interest of the State of Illinois in and to the land, buildings, and equipment of the Research and Educational Hospital (sometimes called the Central Group Hospital), situated in the city of Chicago, county of Cook and State of Illinois is hereby granted, quit-claimed and conveyed to the Board of Trustees of the University of Illinois. A patent shall be issued under the Great Seal of the State of Illinois, by the Governor and Secretary of State, conveying to the Board of Trustees of the University of Illinois, the property described in this Act.

This institution shall, thereafter, be maintained and operated by the University of Illinois for the study and teaching of the causation, prevention, alleviation and cure of diseases and the promotion of public welfare.

Sec. 2. The sum of \$497,000.00, or so much thereof as may be necessary, is appropriated to the University of Illinois for the maintenance and operation of the Research and Educational Hospital until the expiration of the first fiscal quarter after the next regular session of the General Assembly.

Sec. 2. The appropriation herein is subject to the provisions of "An Act in relation to State Finance," approved June 10, 1919, as amended.

### GOVERNMENT MEDICINE

#### IF SOCIALISM CAN BE APPLIED TO THE MEDICAL PROFESSION, IT CAN BE APPLIED TO OTHER PROFES- SIONS AND TO BUSINESS IN GENERAL

GOVERNMENT BREAD, GOVERNMENT PILLS, GOVERNMENT CLOTHES, GOVERNMENT SHOES  
OUT OF THE SAME BAG

One of the recognized financial and commercial periodicals of the country, *The Chicago Journal of Commerce*, makes this editorial comment, under date of June 28, 1928, on the preparatory activities of the Children's Bureau of the Department of Labor as to the proposed extension of the Sheppard-Towner act.

When a periodical of this class in the lay press takes so decided an attitude upon so critical a question does it not behoove the more indolent of the medical profession to convince themselves that the editorial columns of the ILLINOIS MEDICAL JOURNAL do not exaggerate the current crisis in medical economics?

"The children's bureau of the department of labor is now preparing its campaign for a renewed extension of the Sheppard-Towner government medicine act, the authorized appropriations for which will expire June 30, 1929. At the next session of congress a drive will be made for renewed appropriations.

"It is the purpose of the paternalists and bureaucrats to make the Sheppard-Towner government medicine act a permanent piece of legislation, and to keep the federal government forever in the business of paying money to the states for local medical and nursing work.

"The Sheppard-Towner act is called a "maternity and infancy act." It has been represented as an invaluable aid to mothers in childbirth, and to infants under 1 year of age.

"But in fact the operations of this law are not limited in this fashion. Instead they cover a



large part of the general field of medicine and medical research. The Sheppard-Towner act is the formidable beginning of a comprehensive system of government medicine.

"For the fiscal year 1927 the federal government paid to the state of Kentucky the salaries of a state health officer, a health director, an assistant director, a clinical instructor, a chemist for water and milk supply, an inspector of birth registration, an educational instructor, a stenographer, a bookkeeper, and six clerks.

"In Georgia the federal government paid for the distribution of free diphtheria toxin-anti-toxin to clinics for the immunization of children under 7 years of age. This was a highly valuable work. But it certainly violated the promise that the Sheppard-Towner act would be used only for the benefit of mothers in childbirth and of children under the age of 1 year.

"In Colorado the federal government paid for what has been described as 'special work' with the boys' and girls' clubs at the state fair.

"In California the federal government paid for the distribution of pamphlets dealing with tonsils and adenoids.

"In Iowa the federal government paid for dentists and nurses in dental conferences and clinics for children up to 7 years of age.

"In Maryland the federal government paid for a survey of crippled children.

"In New York the federal government paid for an orthopedic clinic, consisting of a traveling unit comprising two orthopedic surgeons, eleven field nurses, and one muscle-tester.

"These are only a few of numerous items showing the extent to which the federal government's money, under the Sheppard-Towner act, is being employed not only to lessen the deaths 'connected with childbirth, and among infants under 1 year of age,' which is the professed purpose of the act, but for health work among children in general, including educational work in boys' and girls' clubs.

"What is being done in the case of children can readily be done in the case of adults. A bureaucracy tends to exalt itself by extending its power. The Sheppard-Towner act is the well-defined beginning of a general system of federal government medicine. It is paternalistic, it is bureaucratic, and in sober truth it is socialistic.

"If socialism can be applied to the medical

profession, it can be applied to other professions and to business in general.

"When the proposal for another extension of Sheppard-Towner appropriations is made at the next session of congress, it ought to be defeated. It probably will not be. Masked socialism is not encountering many defeats in the United States. It is winning again and again, because business is asleep."

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### WOMEN FLAY FEMINIST BLOC AND CHILDREN'S BUREAU WOMEN AROUSED TO FIGHT ANTI-HOME LEGISLATION DIRECTLY AF- FECTING THEMSELVES AND THEIR CHILD- DREN

FEMINIST BLOC AND CHILDREN'S BUREAU RE-  
SENTED BY THOUSANDS OF AMERICAN CITI-  
ZENS WHO UNDERSTAND SINISTER EF-  
FECTS OF THIS BUREAUCRACY

A cry for help, gathering force as the incoming tides and surging against national legislators, is coming from intelligent women who realize what misdirected federal power can do through meddlesome interference in local affairs. The age old slogan in time of disaster, "Women and Children First," has been so perverted and stood on end by malign interpretation as to cause protest against this nefariousness to be heard on every side.

To the revolutionary socialists trying to undermine the government of the only democracy that has proven successful, the cry "Women and Children First" means that this group is the target for the first attacks of insidious inroads. Through the children's bureau of the department of labor and its sustaining feminist bloc, instead of a shout of heroism, the cry "Women and Children First" has become the password for bureaucratic rapine and destruction.

Rebellion against this nauseous and poisonous dose meted out to them by their sisters is gathering force not only among such strong national patriotic organizations as the Daughters of the American Revolution and the Daughters of 1812 but among civic and economic organizations of women. Not only do many of these organizations such as the Daughters of the American Revolution, the Daughters of 1812, the Women's Constitutional League of Maryland, the North

Carolina D. A. R., the Maryland D. A. R., the New Jersey Society Daughters of the American Revolution, Sentinels of the Republic, the Woman's Constitutional League of Virginia, the National Society Daughters of the American Revolution, American War Mothers, Massachusetts Public Interest League, and scores of others protest against the extension of the Federal maternity act subsequent to its repeal, effective June 30, 1929, but all of them ask for the abolishment of the Federal Children's Bureau and for the suppression of any efforts towards the foundation of a federal department of education. The text of the whole rebellion is the reduction of federal bureaucracy.

Rebels from all parties and from non-partisan leagues who object to this federal arrogation of private rights for the benefit of a feminist bloc have been put to it as to how best to combat the growing menace. One of the first associations to throw down the gauntlet boldly is the federation of Democratic women of Baltimore. Their appeal has been sent to each Democratic member of Congress.

#### DEMOCRATIC WOMEN FLAY FEMINIST BLOC AND CHILDREN'S BUREAU

The Federation of Democratic Women, of Baltimore, has appealed to every Democrat in Congress to resist and reduce Federal bureaucracy; to oppose any expansion of Federal power in local affairs; to work and vote against a Federal Department of Education, or any revival of the Federal Maternity Act (which was repealed by the last Congress to take effect June 30, 1929); and in particular to abolish the Federal Children's Bureau. The full text of the appeal follows:

FEDERATION OF DEMOCRATIC WOMEN OF BALTIMORE, INC.  
18 W. Saratoga Street, Baltimore, Md.

January 14, 1928.

*To the Democratic Members of*

*The Congress of the United States.*

HON. \_\_\_\_\_

Dear Sir:

We are an association of straight women Democrats, politically organized, and working shoulder to shoulder with our party men for Democratic candidates, the Democratic Party and Democratic principles. We are alarmed at mounting Federal power and bureaucracy, intolerable to a liberty-loving, self-reliant people. Therefore, it was resolved at the Federation's December meeting most respectfully to appeal to every Democrat in the national law-making body to resist and reduce these interlocked dangers which were the very grievances of the American colonists against the British Parliament in 1776, for they complained about the erection of a "multitude of new offices" and "swarms of officers to harass our

people and eat out their substance." We believe we are threatened by a like menace and respectfully urge you to vote against any expansion of the Federal power such as the creation of new departments, bureaus, commissions, boards and divisions, and also to strive to curtail this power by resisting all further interference with the rights of the States and with local self-government.

We wish to point out that there is danger in invasions of the private lives of citizens, however sentimentalized and disguised as Public Welfare (in outright perversion of that term's restricted meaning as used in the Constitution) and that the Federal Government transcends its powers when it meddles in the most intimate domestic relations, and attempts to interfere with the parental authority of fathers and mothers over their children. In submitting to such a system American citizens surrender their ancient Right of Castle, guaranteed them under our Constitution.

We are indignant at the group of bills and amendments being foisted on the Congress as "women's measures" by the little inner ring of interlocked executives of feminist organizations, known as the "Women's Joint Congressional Committee." It in no way represents women in general and we who are aligned with men along legitimate party lines, contend that non-partisan political organization along sex lines is disruptive of both government and society. Such an organization can only be used for illegitimate pressure work. They are organized to mislead Congress and misrepresent women and we dissociate ourselves completely from this feminist bloc.

We wish to point out that the feminist agency in government most obnoxious to the rank and file of normal women is the Children's Bureau in the Federal Department of Labor, which, since its establishment, has been a storm center. Its "expanding program" for establishing a dictatorship over women and children has resulted in two unconstitutional Federal child labor laws, the Federal Maternity Act, the pending Federal "Child" Labor Amendment, and a constant stream of communistic propaganda from that Bureau to nationalize and standardize the care of mothers, babies and youth, compared by these bureaucrats of the Children's Bureau to the supervision exercised by the Bureau of Animal Industry in the Department of Agriculture which deals with the breeding, care and feeding of hogs, cattle and sheep for slaughter.

The "Child" Labor Amendment launched by this Bureau (deliberately to circumvent two decisions of the Supreme Court, 247 U. S. 251; U. S. 20) contained, as stated by Senator Reed of Missouri:

"An entirely new power, that the Federal Government never possessed, that no State ever possessed. . . . No State possesses the power under the principles of the common law. . . . No State today, no government today, where flies the American Flag, not the Federal Government, not an individual State, not a combination of all of them today can take away arbitrarily from the human being the right to



earn his living. . . . Never before was there ever heard of . . . a proposition so monstrous that was brought before any legislative body in any country. . . .

"It is not a child labor amendment; it is revolution. It is the creation of a new, a great despotic power in the Federal Government." (*Cong. Record*, June 2, 1924.)

This miscalled "Child" Labor Amendment was driven through Congress swathed in sentiment. In the exposure of the ratification campaign (on which the States stand 36 to 5 for rejection) the Amendment was shown to be on the one hand, an attempt to eliminate youthful competition in labor, and on the other hand an attempt at communistic control and maintenance of the youth of the nation up to 18 years by the Federal Government, with a raising scale (Sec. 2) of a hoped for 21-year limit in the States—a power not asserted by any government today save that of Soviet Russia, and not even there exercised.

It is the drive of this Bureau for this despotic power that is responsible for the cleavage between the rank and file of normal women and the feminist bloc, co-operating with the Children's Bureau.

We resent the assumption of a protectorate over women and children by a Federal Bureau, and the implication that we are, like the Indians, "wards of the government."

Even the President of the United States appears to hold this theory of benevolent despotism. He says:

"The welfare of women and children is being especially guarded by our Department of Labor. Its Children's Bureau is in co-operation with 26 State Boards and 80 juvenile courts." (Annual Message, 1927.)

This assertion is only to be matched by the claim of Miss Grace Abbott, Chief of the Children's Bureau.

"The Children's Bureau has the whole field of child welfare and child care." (Proceedings, Women's Trade Union League, Waukegan, Ill., June 5-10, 1922, p. 90, address by Miss Abbott.)

In close co-operation with the Joint Congressional Committee, the Children's Bureau chief, in violation of civil service ethics, operates politically. She formulates legislation both State and Federal, boasts of her "legislative technique" and teaches and leads what she calls "the final assault upon the Legislature or the Congress."

It is precisely the program of this Children's Bureau for a revolutionary "full grant of power," as Miss Abbott called it (House Child Labor Hearings, 1924, p. 35), over our homes, schools and children (including youth up to 18 years) by constitutional amendment, that the States and the people have "especially guarded" against in rejecting that amendment by 36 to 5!

We beg you to remember that neither party owes the feminist bloc—the chief supporter of this Bureau and these "welfare" measures—anything whatever. The feminist bloc threatens and wheedles, but never supports any candidate or any party. It is organized, instead, to "bore from within" the legitimate parties,

and to get women to betray their parties, from the inside for the benefit of feminist bloc measures.

For example, in its campaign bulletin for May, 1920, the National League of Women Voters instructed its members:

"GET INTO THE PARTIES . . . Democratic women, you need the help of your Republican sisters. Republican women, you will succeed only if you join hands with the Democratic women, working from within. Neither side could win without the other, but by teamwork in behalf of the legislative measures in which women believe, the League of Women Voters will become invincible."

Observe that women members of this organization were not urged to enter the parties for the parties—but as party snoopers, spies and traitors to make this non-partisan League of Women Voters "invincible".

There is room in the Democratic Party for every woman Democrat. There is room in the Republican Party for every woman Republican. But there should be no room in either party for the "50-50" woman voter, "working from within" with women of the opposite party on behalf of an outside league of no party!

Finally, we urge you to vote against a Federal Department of Education; against any bill to replace the Maternity and Infancy Act, repealed by the last Congress to take effect June 30, 1929; and against the so-called "Equal Rights" Amendment of the National Woman's Party—another would-be political monopolist of an entire sex—and to repeal the Act of April 9, 1912, establishing the Children's Bureau.

There is no excuse for the existence of that bureau. Every possible legitimate interest the Federal Government can have in the education, health, enumeration, or labor of children is limited by the Constitution to gathering of facts and statistics under the Census clause and its implied powers, and can be and is being exercised by the Federal Bureau of Education, the Federal Division of Vital Statistics (which reports infant, maternal and other mortality, births, etc.), the United States Public Health Service, and the Bureau of Labor Statistics. Four distinct Federal bureaus can and do cover every statistical fact concerning children that the Federal Government has a right to gather or disseminate.

Therefore, we most earnestly urge every Democrat in Congress to work and vote for the abolition of this fifth-wheel on the Federal system, called a "Children's Bureau," which, in insolent defiance of the Constitution, and the Supreme Court, has waged political campaigns to secure national control of children, and in its last Annual Report indicates that it has no respect for the overwhelming action of the people in rejecting the "Child" Labor Amendment, and considers the action of the last Congress in repealing the Maternity Act of little or no consequence!

Respectfully submitted,

(Signed) MRS. MORTIMER W. WEST,

President.

## EDUCATIONAL COMMITTEE ACHIEVES WONDERFUL RESULTS

Results of the past few years prove how ably the Educational Committee of the Illinois State Medical Society has filled a long-standing but hitherto comparatively unrecognized need.

Efforts of this Committee have been a potent influence toward abolishing that misunderstanding of the aims and achievements of scientific medicine that has enabled skilfully disguised socialistic medicine to burden the citizens of the state with inimical legislation. The work has only begun, but since the Educational Committee has been able to interest and gain the support of many influential educational, commercial and civic organizations, the ultimate success of its program seems daily more probable.

That Sheppard-Towner cooperative legislation was not introduced during the last two sessions of the Illinois General Assembly was largely due to the labors of the Educational Committee; that the examinations of preschool children are to be conducted in physicians' offices and not in clinics, as was the original intention of sponsors of the examinations; that future clinics for crippled children conducted throughout the state by Rotarians will be held only after conference with and approval by local county medical societies; that the physical examinations of girls in the 4-H clubs of various Home Bureau units will hereafter be held in doctors' offices and not in clinics, are but a few of the specific achievements of the Committee.

Among organizations and agencies which have cooperated with the Educational Committee in extending a better understanding of the ideals of scientific medicine, or to which the Committee has extended service, must be mentioned the following: Illinois Federation of Women's Clubs, Illinois Federation of Colored Women's Clubs, Illinois Council of Parent-Teacher Associations, Business and Professional Women's Clubs of Illinois, Illinois Home Bureau Federation, Home Economics Extension Service, University of Illinois; Illinois Conference on Public Welfare; Illinois Department of Public Health; Woman's Auxiliary of the Illinois State Medical Society, Illinois State Dental Society, Chicago Council of Jewish Women, Jewish People's Institute, Chicago Woman's Aid, Chicago Urban League, Chicago Department of Health, Chicago Dental Society, Chicago Commons Association,

Onward Neighborhood House, Chicago High Schools, Lions Clubs, Rotary Clubs, Kiwanis Clubs, Optimist Clubs, Exchange Clubs, Teachers' Institutes, Young Men's Christian Association (Industrial, Railroad and Colored Branches, Physical Education Departments), Young Women's Christian Association, Boy Scouts, Campfire Girls, Mandel Brothers, Sears, Roebuck & Co., Wieboldt Stores, Boston Store (for National Baby Week), Chicago Medical Society (branch societies), numerous manufacturing plants and industries of Chicago.

Through the Scientific Service Committee, functioning as a sub-committee of the Educational Committee, scientific material of post-graduate nature has been made available to very county medical society in the state.

During the year just ended, the Educational Committee scheduled 640 speakers, exclusive of speakers detailed by the Scientific Service Committee. Eight thousand five hundred articles of a health education nature were released by the Committee for publication in Illinois newspapers, and 96 radio talks were given under its sponsorship.

## FARM RELIEF FROM THE MEDICAL STANDPOINT

SHORTAGE OF PHYSICIANS AS WELL AS CROP SITUATION MATTER OF CONCERN TO THE NATION'S AGRICULTURISTS AS INCREASING DEARTH OF GENERAL PRACTITIONERS PLACES UNLOOKED FOR CONSEQUENCES UPON SHOULDERS OF NATIONAL FARM AND SUBURBAN POPULATION.

Decreasing and minimum profits from his tilling of the soil has made the American farmer an anxious faced watcher in legislative and convention halls. Added to his alarm lest he fail to "break even" has come another and more vital solicitude. For the agriculturist has lost his "medicine man." Swept under the flood of specialists and high-priced M. D.'s who have paid so much for their medical education that they simply must realize upon their expended time and cash to an extent that country practice to them is at all angles "Verboten," the farmer finds himself minus a physician.

Expert students of the situation claim that the only solution lies in the American Medical Association's repossession of the control of medical education, now virtually passed from the hands of this parent organization.



With matters re-righted in this direction, certainly some middle ground can be agreed upon. An economic axiom beyond dispute is that increase in cost means invariably decrease in consumption. As the cost of the license and equipment to practice medicine increases, there is an equally decreasing number of persons able to purchase a necessity that by its inherent qualities and excellence has become a luxury.

Ethical medicine holds that no man can be too well qualified as a practitioner, and yet some bridge must be made between the horns of a dilemma that has become almost intolerable. Surely some means can be discovered by which reasonable medical service at a reasonable cost can be fairly dispensed to the overpowering number of rural districts that are now either destitute of any medical service whatsoever, or dependent upon that questionable treatment received at the hands of state nurses, semi-lay community centers, or worse yet, veritable quacks and charlatans.

Long before William Allen Pusey issued his excellent brochure on "The Disappearance of Doctors from Small Towns," the National Grange, an association of farmers from all over the country, had discovered this deficit, verily as grave a one as the hole in the ledger account. The memorial addressed by the National Grange under date of Dec. 5, 1927, to the House of Delegates of the A. M. A. is reproduced elsewhere in this issue. Careful reading of this virile document discloses that these men and the communities represented by them knew even better than did Dr. Pusey, and by first hand knowledge, too, the sinister significance of the statement, "One-third of the towns in the United States of a population of 1,000 or less and who had doctors in 1914 are now without them."

A physician must be controlled by economic values since medicine is not an endowed profession. A large percentage of the 800,000 members of the National Grange come under the ban of these towns of "1,000 or less" for ethical medical facilities. Where there is no ethical physician there is a fat field for the resident charlatan or the mail-order quack. Town population has no effect upon vital statistics in the matter of health, birth or death. A man can be as sick in a town of 300 persons as he is in London, or New York, or Paris.

The question would really seem to be up to

the doctors. And of national, even international import is the fashion in which the doctors will reply to the query of "What are you going to do about it?"

State medicine is not the answer. England, Germany, other continental countries who have tried this pompous evil, find that like the men from whom the devils were cast out, "the last state is even worse than the first."

Endowed foundations also fail in the verities. This would be the literal delivering up into the hands of the laity of the entire practice of medicine in the rural communities with those disastrous results that are the inevitable sequelae of the lay dictation of any of the scientific professions, and most of all, of the science of medicine.

Harry A. Caton, master of the Ohio State Grange, has declared that the specialist, taking care of about ten per cent. of rural medical cases has sounded the knell of the old fashioned practitioner and country doctor. Unfortunately, the concentrated skill of this specialist has not sounded the knell for rural illness.

Just as it is manifestly unfair for the physicians of the country to expect rural communities to do without medical service, "to be medically helpless," as has been well phrased, just so it is manifestly unfair to expect a man to spend from \$15,000 to \$20,000 in securing a medical education that it takes him the first 25 or 26 years of his life to obtain, and then to expect his economic return from a starveling rural community. The bridge of justice would seem to be plausible if constructed, not from any lowered medical standard, but from a lowered preparatory expense. Method and means for this lowered preparatory expense offers much argument and option. Two of the major plans presented discuss some feasible means of medical college endowment to lower preparatory expense, and some plan of intermediate, short term teaching, that might be so adjudged to conform with economics as to furnish to struggling communities medical attention of repute and skill.

If some short term, temporary course, perhaps of rotating practice and study could be evolved as a corporate unit in the regulation medical course, this emergency service might tide over the present troublous times. Some step must be taken, and that immediately. Wisdom in control and cure of the present disastrous

crisis is expected from the organized ethical physicians of the country, through the A. M. A., and in turn through the state and county medical societies. Something must be done at once. If it is not, let no complaint be made if the farm population is ravaged by the malpractice of quacks and charlatans, and let not the medical profession complain a few years hence if the harvest of this sowing of a whirlwind of neglect shall be a thousand whirlwinds of disaster and destruction, both of the mother science and of the humanity that the medical profession is bound to serve.

In their ministry the rural and suburban communities seek not for spellbinders but for humble and sincere men of cloth. Not necessarily a genius in medicine is needed in every hamlet or village, but by all odds at least a sincere, humble follower of right and decency and skill as upheld by the medical profession.

Comparative figures of rural medicine, compiled by Dr. William Allen Pusey, are interesting and speak for themselves in illustrating the medical situation in rural communities.

TABLE 1.—*Rural Distribution of Physicians and Irregular Practitioners During Last Ten Years*

State	Medical Graduates of Last Ten Years	Irregular Practitioners of Last Ten Years in Same Counties
Arizona .....	1	16
Arkansas .....	3	11
Colorado .....	6	43
Connecticut .....	1	7
Delaware .....	2	2
Florida .....	4	12
Illinois .....	12	9
Indiana .....	5	14
Iowa .....	20	49
Kansas .....	6	15
Kentucky .....	0	2
Maine .....	12	20
Michigan .....	3	8
Minnesota .....	9	21
Missouri .....	5	17
Nebraska .....	13	37
New Jersey .....	6	2
New Mexico .....	0	5
New York .....	17	21
Ohio .....	12	15
Oregon .....	12	42
Pennsylvania .....	16	19
South Dakota .....	3	13
Tennessee .....	5	11
Texas .....	5	13
Utah .....	11	3
West Virginia .....	3	4
Wisconsin .....	13	22
Wyoming .....	5	18
	210	472

TABLE 2.—*Irregulars in Counties Without Recent Physicians*

State	Counties Not Having Medical Graduates of Last Ten Years	Number of Irregulars Entering Practice in Same Coun- ties in Last Ten Years
Arizona .....	2	7
Arkansas .....	5	11
Colorado .....	1	6
Florida .....	3	5
Illinois .....	1	1
Indiana .....	3	6
Iowa .....	3	10
Kansas .....	2	5
Kentucky .....	3	2
Michigan .....	1	0
Minnesota .....	1	5
Missouri .....	5	10
Montana .....	3	2
Nebraska .....	2	12
New Mexico .....	5	5
New York .....	1	4
Ohio .....	2	6
Oregon .....	5	8
Pennsylvania .....	3	5
South Dakota .....	3	6
Tennessee .....	3	1
Texas .....	1	1
Utah .....	2	0
West Virginia .....	4	3
	64	121

FARMERS WILL DEMAND STATE MEDICINE UNLESS AMERICAN PHYSICIANS CLEAR UP PRESENT DEARTH OF MEDICAL PRACTITIONERS

THIS ALTERNATIVE IS MADE PLAIN ALL THROUGH THE FOLLOWING CORRESPONDENCE AND ESPECIALLY IN THE SIXTH AND SEVENTH PARAGRAPHS FROM THE END OF THE LETTER SIGNED BY L. J. TABER, MASTER OF THE NATIONAL GRANGE.

Cleveland, Ohio, November 24, 1927.

House of Delegates,  
American Medical Association.  
Gentlemen:

We, the officers and delegates attending the sixty-first annual session of the National Grange, assembled at Cleveland, O., and representing 800,000 members, who are engaged in agricultural pursuits, wish respectfully to bring to the attention of your association the growing scarcity of country doctors. It is our hope in so doing that your association may lend the weight of its influence to such readjustments and reforms in medical education as will serve to replenish the dwindling supply of country doctors and avert a general breakdown in rural medical service, which, unless present tendencies are arrested and corrected, appears to be inevitable.

According to the findings of a survey made for the General Education Board by Lewis Mayers and



Leonard V. Harrison, published in 1924, there were approximately 33,000 physicians in places of 1,000 inhabitants or less in the United States in 1906. In 1924, according to this report, this number had been reduced to 27,000, showing an actual loss of 6,000 rural physicians in 18 years. More recent investigation shows that almost one-third of the towns of 1,000 or less, throughout the United States, which had physicians in 1914 had none in 1925. The average age of rural doctors throughout the country in 1925 was 52 years. Since the average age at death of American physicians is 62 years, it will be seen at a glance that the present generation of country doctors will have practically disappeared in another ten years.

With this situation staring us in the face, it is ominous, to say the least, that only a very small percentage of the medical doctors graduated during the past ten years have taken up the practice of their profession in the rural districts. Careful inquiry reveals the fact that there are literally scores of rural counties in the United States where not a single doctor receiving his degree during the past ten years has settled.

In the meantime, we hear more and more of the increasing hosts in the rural sections who are "medically helpless", while the cost of medical service, where it is to be had, mounts higher and higher.

Notwithstanding this situation, we find that the Commission on Medical Education, which is now studying the subject, reports that with the medical school capacity we have in the country at the present time, and their graduates averaging 27 years of age, the number of physicians in practice is actually decreasing and that their number will not regain its present size of 130,000 until 1965. In the meantime, the population of the country, the Commission estimates will have increased from 115 millions to 164 millions.

We glean from a published report of one of the committees at the last annual convention of the American Medical Association, held at Washington, that "the medical profession does not attract so many qualified young men and women as formerly." The report also notes that a dangerous concentration of doctors in cities is taking place, leaving the rural communities without adequate medical service.

The reason for this situation is not far to seek, and is hinted at by the committee in question. Under the minimum requirements which have been established, the prospective doctor must spend seven years after leaving high school in securing his education. Aside from the long period of pupillage, he must assume excessive financial responsibilities before he can begin the practice of his profession. This automatically operates to close the doors of the medical profession to thousands of those who possess all the natural qualifications to make them successful physicians under a more reasonable system of preparation.

It is only in very rare instances that the son or daughter of a farmer could hope to enter the medical profession under prevailing conditions. This holds

true of people of average means in other walks of life.

We are in hearty accord with a distinguished former President of the American Medical Association, Dr. William Allen Pusey, when he says: "If the poor boy, who is used to the simple life and to effort rewarded only by the simpler luxuries, cannot enter medicine, who is going to do the ordinary work of medicine in the city or in the country? The man who can live without productive labor until he is 25 or 30 years old, who can spend \$8,000 or \$10,000 on his higher education, is not looking for an ordinary practice among ordinary people in the cities, or for any practice in the country."

If the supply of country doctors is to be replenished, these doctors must come from among the young men and women of the country districts, as was the case in former times. The type of graduates now being produced by our medical schools will not settle and practice in the country districts. This is conclusively proved by the experience of recent years.

The family doctor is rapidly becoming extinct. He is being supplanted by the specialist to a degree that is not warranted under practical conditions.

It is poor comfort to the expectant mother in the farm home to know that in the distant city there is an elaborately equipped maternity hospital, with specialists in obstetrics in attendance, when our system of medical education to an increasing extent compels her to rely upon a midwife or the friendly offices of a neighbor in facing her ordeal. It is not necessary to elaborate on this phase of the situation. Parallel illustrations will readily suggest themselves.

The need is for more general practitioners, whose outlay in time and money in securing their medical education will be such that their services will be within the reach of the rank and file of the people, who constitute the overwhelming majority of our population, whether urban or rural.

We are not advocating one class of doctors for the country and another for the town. The country doctor, who is compelled to rely largely upon his own resources, without many of the facilities afforded in city hospitals, and without the advice of specialists, should be the best product of our medical schools.

Neither are we advocating any lowering of medical standards. What is required is more practical instruction, which may be acquired in less time and with the expenditure of less money than under prevailing conditions. We find that it is the opinion of many physicians of the highest standing that present medical education is not giving the most resourceful practitioners for ordinary service; it is producing practitioners who are dependent upon hospitals and laboratories, while these facilities according to authoritative medical opinions are necessary in hardly more than 10 per cent of illnesses and accidents. It is in the care of this 90 per cent of illnesses for which independent, resourceful physicians are necessary, that the rural communities are mostly in need. For the 10 per cent of emergencies requiring specialists and

hospital service, rural people can, perhaps, in most cases by an effort utilize urban facilities. However, the cost of these distant facilities makes them impracticable by rural people except in cases of emergency. Because of their cost they are not practical for 90 per cent of ordinary illnesses and accidents which, in the aggregate, produce the greatest sum of suffering, and whose early neglect leads to the serious emergencies. This 90 per cent of illnesses cannot be handled through distant doctors and urban hospitals. If the people are to have adequate medical service, they must have physicians in their own communities.

The number of medical schools in the United States has been reduced from 160 to 69. Many of the smaller medical schools, which served a useful purpose, have been forced out of existence by highly endowed institutions, nearly all of which receive large appropriations of public funds. The direction and control of these schools has largely passed out of the hands of the people or their representatives.

The leaders of the medical profession and those who are charged with shaping the policies of these institutions are the guardians of a sacred trust. It is for them to recognize the difficulties of the situation into which we are so rapidly drifting and to propose a practical solution.

Failing in this, it is for the people to determine whether it would not be good policy, as necessity demands, for the States to build and maintain medical schools solely under public control and responsive to the needs of humanity.

We note that there are many distinguished physicians in the United States who believe that a proper medical education can be given upon the basis of a high school education and four years of subsequent training, provided this includes at least one year of practical experience in a hospital; that unanswerable evidence to confirm this opinion is furnished by the fact that many of the physicians of the highest standing in the country at the present time and an equally great number of your most useful servants of society, but of less distinction, scattered throughout the country, have had a training not exceeding this. If such a training will produce competent physicians, we think that the argument is unanswerable that such physicians will be less expensive and their services more widely available to the people.

We are, however, not undertaking to offer our opinion upon the details of medical education; our purpose is to emphasize to you our needs as we see them. We wish to follow wise medical leadership, to escape if possible the mistakes of unwise legislation which might open the doors to all sorts of incompetents. But we feel that we should call the attention of the profession to the fact that we are compelled by force of circumstances to be concerned with the usefulness of the medical graduates that are turned out and their apparent failure under present conditions to meet the needs of rural communities.

It is pertinent to observe that it has taken about twenty years to bring about the present situation and it will require some time to extricate ourselves from it. No time should be lost in prescribing remedies intended to effect a cure.

Various remedies have been suggested to relieve the situation with which we are confronted. But in the main these proposals call for mere makeshifts. They constitute an effort to deal with the effect without removing the cause of the shortage of country doctors. In our opinion, the only adequate remedy will be found in the adoption of a more rational system of medical education.

Again expressing the hope that your organization, to which the people have been accustomed to look for leadership in medical affairs, may recognize the urgent need of the reforms suggested and strive for their realization, we are

Respectfully yours,  
THE NATIONAL GRANGE,  
L. J. Taber,  
Master.

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## Correspondence

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### UNIVERSITY OF ILLINOIS HAS IDEAL SYSTEM OF PRACTICE OF MEDICINE AMONG ITS STUDENTS

Champaign, Illinois, July 14, 1928.

*To the Editor:* I have been reading with much interest the results of your investigation concerning the practice of medicine among the students in attendance in the various state universities. I can not refrain from saying that I think the plan which exists at the University of Illinois compares very favorably with any of them. And further than that, practicing among them as I do, I am quite sure that we are not training future citizens to expect the state to take care of them medically; nor is the medical profession of this community being unduly imposed upon. No student, rich or poor, is ever neglected here when he needs medical or surgical attention. But the services rendered are invariably a personal, private matter between him and his physician.

CLEAVES BENNETT, M.D.,  
Councilor Eighth District.

NOTE: We quite agree with Dr. Bennett. The University of Illinois has inaugurated a system of medical care of its students that seems to be satisfactory to the local physicians and the officers of the County Medical Society and seems to meet all the requirements of the parent organization.



# IF THE DOCTORS WON'T, THE FARMERS WILL. THE LAST CHANCE TO LOCK THE DOOR BEFORE THE HORSE IS STOLEN CONFRONTS THE MEDICAL PROFESSION

Silvis, Illinois, July 1, 1928.

*To the Editor:* The inclosure relative to the country practitioner and the national grange action (published elsewhere in this issue) is worthy of attention in that same connection, for if we do not furnish it, they will make one sure as hell. Maybe they will use sanitologists, but they will take one from some place which seems to offer promise and they will tune up its education a bit then use it.

The pathetic part of the appeal is that the A. M. A. has given up its authority over medical education—abdicated in favor of a bunch of pedagogues who are soft.

There is an editorial and some educational work in that item. The farmers brought it on themselves, of course, by refusing to honor their local practitioners and flying to "specialists." They went to anybody away from home. Those with good credit went to Rochester on advice of their local druggist—the others went more modestly to neighboring larger towns which had "specialists." The local men starved and the war gave them a chance to move. Now it's hell on the farm. But if we don't supply their idea of their need they will find someone who will.

We should regain control of medical education and make the specialties post graduate entirely.

W. D. CHAPMAN, M. D.,  
Chairman of the Council of the Illinois State Medical Society.

## THE BASIC SCIENCE LAW IS NO MORE THAN THE PROVERBIAL PADLOCK THAT IS USED AFTER THE HORSE IS STOLEN

Springfield, Illinois, July 26, 1928.

*To the Editor:* Thank you very much for sending me the various clippings, and I certainly think it was nice of the Editor of the *New York Journal* to devote as much of his valuable space as he did to reviewing the editorials of the Illinois State Medical Journal.

I am doing all that I can in my feeble way to arouse the medical profession to dignify their position politically. I do not believe that anyone would accuse me of running away from a politi-

cal scrap, and yet if we can avoid controversies we save money, time and patience and there is no gainsaying but that an apathy in certain medical sections in other states has resulted most disastrously, for the Basic Science Law, in my humble judgment, is no more than the proverbial padlock that is used after the horse is stolen.

It seems to me that it is rather paradoxical that a group of physicians in the good state of Kansas should be clamoring for a Basic Science Law, and that similar groups of physicians in many other states are maintaining that such a law is distinctly a retrogressive step. However, as I am a firm believer in the sovereignty of state's rights, it is uncalled for for me to criticize the attitude that other states are taking toward this rather new innovation in medical licenture. I sincerely trust the day will never arrive when Illinois will have to ask the public to pass this sort of a measure.

JOHN R. NEAL, M. D.,  
Chairman Legislative Committee.

## CRIPPLED CHILDREN CLINICS OF THE ROTARIANS IN FUTURE WILL BE DIRECTED BY MEDICAL SOCIETIES

As soon as the Rotarians understood the significance and underlying merit of the problem of clinics for crippled children this progressive organization was not only willing but eager to cooperate with the medical societies, since "The best is none too good" was the motto under which the Rotarians originally undertook these clinics.

Delay in bringing this result about, that has extended over some four or five years, was due in some measure to the changes in personnel of the executives of the Rotarians.

July 25, 1928.

Dr. John E. Tuite,  
President Illinois State Medical Society,  
Rockford, Illinois.

*Dear Doctor Tuite:* A few weeks ago I sat in a meeting with the Crippled Children Committee of the Rotarians here in Chicago, merely as an advisor and observer. Their plans, if carried out as indicated to me, are entirely different than when Dr. East was employed to give Clinics over the State without regard to anyone.

Their Committee passed a Resolution referred to by Dr. Camp, and reported by me to the

Council, in sum and substance that: "Clinics for Crippled Children will be held only after conferring with the local County Medical Society, and gaining their consent to hold such Clinics. Before Clinics are held an advance M. D. should confer with the officers to ascertain whether a Clinic is advisable or wanted."

At these Clinics the poor child may be cared for, brought in by the family physician or nurse, and an M. D. may bring his pay patients in for consultation and suggestions. These may or may not be paid for, and is entirely up to the family and family physician.

This seems a very fair arrangement if the Rotarians live up to the same.

I hope this will answer your purpose.

Very truly yours,

R. R. FERGUSON, M. D.,  
4175 Irving Park Blvd.

THE NEWTON BILL HAS THE SAME  
LANGUAGE AS THE SHEPPARD-  
TOWNER BILL WITH REGARD TO  
THE INVASION OF HOMES BY  
AGENTS OF THE CHILDREN'S  
BUREAU, BEING CAREFUL TO  
PROVIDE NO PENALTY FOR  
THIS INVASION.

THE NEWTON BILL OUTCLASSES THE SHEPPARD-  
TOWNER ACT, BECAUSE OF A PROVISION AT  
THE END OF SECTION 1 WHICH WOULD  
MAKE CO-OPERATIVE ACTIVITY BETWEEN  
THE UNITED STATES GOVERNMENT AND  
THE ROCKEFELLER AND OTHER FOUN-  
DATIONS, WITH THE FUNDS OF  
BOTH, IN PARTNERSHIP, ON A  
FIFTY-FIFTY BASIS, THEREBY  
SANDWICHING THE STATE  
BETWEEN THE CHILDREN'S  
BUREAU PATERNALISTS  
AND THE UPLIFT  
SOCIALISTS

642 Second Street, Brooklyn, N. Y.,

July 15, 1928.

In-re H. R. 14070, May 28/28,

By Rep. Walter H. Newton, Minnesota.

(ILLINOIS MEDICAL JOURNAL, July, 1928,

Page 3)

Copy to Rep. Jas. S. Parker (New York) and

others of H. R. Committee on Interstate and Foreign Commerce.

Hon. Loring M. Black, Jr.,  
Representative in Congress,  
Fifth District, Kings County, N. Y.,  
228 St. Francis Place,  
Brooklyn, N. Y.

My Dear Mr. Black: Your constant watchfulness and your consistent loyalty and your uniformly respectful consideration of the judgment of the Medical men of this County makes the reference herein to the fact that the two Congressmen (Lee and Bond) from this County who voted for the enactment of the execrable Sheppard-Towner Maternity (Birth-control) Bill failed of re-election of no application to you or the Congressmen from Kings County. . . . It is made, however, for the purpose of putting Doctors throughout the Country on notice that what the Medical men of Kings County did to Lee and Bond they can do to their Representatives if the crafty attempt of the Socialized Medicine Apostolate in this Country try to enact this Bill of Mr. Newton's.

TO PROVIDE A CHILD WELFARE EXTENSION SERVICE, AND FOR OTHER PURPOSES.

The People awoke to the menace of the Sheppard-Towner Maternity (Birth Control) Bill enacted in 1921, the operation of which for the years 1921-1926 reduced the Birth-rate in this Country 2.4 to the 1,000 population, which means 250,000 babies PER ANNUM who will never be American Citizens.

The People must realize that when a horde of Bothersome Berties and Meddlesome Matties from the Children's Bureau of the Federal Department of Labor mill around among the women of Montana in an intensive campaign, during those five years, and that the State of Montana thereupon comes through with the lowest birth rate in the Nation and the highest septicemic rate, they have a picture of birth-control-propaganda-results which is as clean-cut as a cameo.

They should know that all the "makings" of the Sheppard-Towner Maternity Bill (which is now discredited) are in the new Bill of Mr. Newton, to wit: the \$1,000,000 appropriation per annum; the plenary expansion of Police Power of the State which makes the Children's Bureau capable of making rules and regulations with



the force and effect of Statute and make the Executive, Legislative and Judicial trinity, designed by the founders of this Nation, a sorry joke because this Bureau is above and beyond the power of the Supreme Court of the United States, as witness Sec. 4 of that Newton Bill which has the same language as the Sheppard-Towner Bill with regard to invasion of homes by Agents of the Children's Bureau, being careful to PROVIDE NO PENALTY for this invasion and putting it up to the parent or guardian to resort to assault or Injunction to keep these busy-bodies out of the American Home.

The Newton Bill outclasses the Sheppard-Towner Act, however, because it has a cute little provision tucked away down toward the end of Section 1 thereof which would make cooperative activity between the United States Government and the Rockefeller and other Foundations, with the funds of both, in partnership, on a fifty-fifty basis, thereby sandwiching the State between the Children's Bureau Paternalists and the Uplift Socialists. . . . This policy was in the minds of the Apostolate of Unrest in the Rand School in 1919, in the Bills for Compulsory Health Insurance with Maternity Aid, and it is showing itself again.

The Medical Society of the County of Kings, at its first meeting in October, will, I am quite sure, adopt a Resolution condemning this Newton Bill. Meantime will you please do what you can (which is much) to expose and circumvent these sappers of National security.

Sincerely,

JOHN J. A. O'REILLY, M. D.

### DON'TS FOR DOCTORS

BY THE WIFE OF ONE OF THEM

DON'T forget that the world takes the doctor at his own valuation.

DON'T forget that nothing succeeds like success. You needn't expect people to say "There goes my Doctor" unless they can be proud to say it. Look successful if you want to be successful.

DON'T devote yourself to your profession so wholeheartedly that your family have no place in your scheme of things. It's a poor rule that won't work both ways. Do you want to be left out of their calculations, except in the only thing that you seem willing to give them—money?

DON'T make a martyr out of yourself to your work, thinking that people appreciate it and that in the end you will receive a fitting reward. You will, but not the one you're expecting.

DON'T ever get it into your head that your duty to humanity in a general, in a world that was created without your help and that will continue to function at least as efficiently as it does at present long after you have shuffled off this mortal coil, should take precedence over the wife you chose, and the children that you brought into being. If you do, the time will surely come when you will realize that the plaudits of the multitude may be conducive to pleasant living, but that they make cold and cheerless comfort for the dying.

DON'T think that you are a good business man. There isn't one chance in a million of its being true, and the sooner you acknowledge it and put temptation, in the shape of an investment that is to provide a living without labor for you in your old age, behind you—the better is it going to be for you and for those dependent on you.

DON'T consider it a thing of little consequence that your wife, being the good sport she is, gives up her comfort, her convenience, and her pleasure that your work may not suffer. You have a certain duty to her, you know, as well as to mankind in general. You didn't promise, before God, to cherish old lady Green, whose wealth could keep two doctors at her bedside. Just once in a while try putting your wife's happiness before your work. No danger of your overdoing it; she wouldn't let you. You'd find that an occasional deviation like this from the general rule would bear such fruit for you as could never blossom on the withered branch of old lady Green's regard.

DON'T forget that, human nature being what it is, people value a thing according to what they have to pay for it. A doctor's services are no exception to this rule.

DON'T let your wife have all the work and responsibility of bringing up the children. Possibly she does have more time than you have; and quite probably she has more capability; but don't let her find out for herself, if you can help it, how well she can manage without you in this or any other undertaking. It isn't good for the

relationship existing between you. You may not want to be hampered with a clinging vine type of woman, but do you really want her to feel that a nice bank account could adequately, and with less bother to her, take your place?

DON'T neglect sending out statements with frequency and regularity. Allowed to run for a long time, a bill becomes a "dun" in the patient's eyes, and is resented accordingly, while small statements sent regularly as a part of the office routine would be paid cheerfully and without comment.

DON'T think for one moment that your family would rather, at your death, be left a plethoric bank account than the memory of loving comradeship. You might discuss the question with them, if you have any doubts on the subject.

DON'T forget that the atmosphere of deference and adulation that a doctor breathes is an unnatural one for the sons of men and more or less unhealthy, tending to increase the head size. This unfortunate tendency can be successfully combated and, except in aggravated cases, entirely overcome by a generous application of the principles of common sense.

DON'T forget to keep your sense of values on straight. In this "Don't" is summed up all the others. There's a price to pay for everything in this world. Be sure you're paying for the thing you want, or else that you are not paying too high for the thing you're getting.

FLORENCE AIRD.

## AMERICAN PUBLIC HEALTH ASSOCIATION

THE PROFESSIONAL SOCIETY OF THE  
PUBLIC HEALTH WORKERS OF NORTH AMERICA  
ORGANIZATION

The American Public Health Association was organized in 1872 by a small group of sanitarians who saw the great need for accumulating existing public health knowledge, promoting study, sharing information and making it available to an uninformed and often misdirected public. From a small beginning, it has grown steadily until today it is the largest and best-known public health organization on this continent.

Such famous public health leaders as Stephen Smith, Carlos J. Findlay, William Thompson Sedgwick, have been closely identified with its history. Its membership roll today contains names as highly honored and as intimately connected with its activities.

For fifty-five years the Association has had an uninterrupted career of usefulness. It serves the public health worker directly, and through him, the people.

It aims to develop public health standards, to stimulate the recruiting and training of public health personnel, and to strengthen the public health profession.

### SECTIONS AND COMMITTEES

The Association has nine sections: Laboratory, Health Officers, Vital Statistics, Industrial Hygiene, Food, Drugs and Nutrition, Child Hygiene, Public Health Engineering, Public Health Education, Public Health Nursing, and more than fifty technical committees on such subjects as Standard Methods for the Examination of Water and Sewage; Milk; Shellfish; Ventilation; Water Supply; Dairy Products; Health Problems in Education; Public Health Training, Forms and Methods of Statistical Practice; Control of Communicable Diseases; Administrative Practice. It is through the studies and reports of these groups of authorities, serving voluntarily, that the Association has contributed most profoundly to the advancement of public health.

### AFFILIATED SOCIETIES

The Association has affiliated societies in several states. These are organizations of professional public health workers organized for the same general objects as the American Public Health Association.

### PUBLICATIONS

The American Journal of Public Health is the official publication of the Association. Its monthly issues contain the reports of technical committees, from six to ten authoritative articles on current public health practice in its various phases, dependable editorial comment, book reviews, an annotated health bibliography, trustworthy advertisements, and departments and regular features devoted to specialized interests. Other publications are:

Standard Methods of Water Analysis  
Standard Methods of Milk Analysis  
Standard Methods for Bacteriological Examination of Shellfish  
Public Health Training  
Light and Health  
Community Health Organization  
Swimming Pools and Other Bathing Places  
The Control of Communicable Diseases  
Industrial Wastes  
Definitions for Sewerage and Sewage Disposal Practice  
Appraisal Form for City Health Work  
Appraisal Form for Rural Health Work  
A Half Century of Public Health  
Bibliography on Health  
Milestones of Public Health in America  
Health Officers News Letter

### SERVICES TO MEMBERS

The Association maintains for service to its members the following activities:

Information Service. The executive office supplies reliable information on public health subjects. If not immediately available, it secures it through correspondence with experts.



**Personnel Service.** An up-to-date list of all openings in public health work that the executive office can locate is available for members.

**Book Service.** A bibliography on health comprising more than six hundred titles is compiled annually and distributed free. Expert opinion on books and authors is given. Any book from any publisher is obtained at list price. Members are given ten per cent. discount on certain publications.

**Field Service.** Surveys and appraisals of community health work, information regarding correct administrative practice, detailed studies of local health problems, regular consultation and advisory service are provided.

**Educational Service.** A syndicated service of cartoons and articles is offered to health and other organizations to send out over their own names. Experts are available, on request, for conferences, addresses, etc.

**Annual Meeting.** This is the greatest annual congress on public health held on this continent. No similar opportunity is provided health workers of all classes to discuss common problems on a common ground. Each Section provides a program of from two to five sessions and there are several general sessions in which the entire Association participates. An exhibit of equipment and apparatus for the public health profession and of reputable products related to health is a feature. Space diagrams and prices will be furnished on request.

#### MEMBERSHIP

The Association's active membership is limited to professional public health workers in the United States, Canada, Cuba and Mexico. It has associate members in all parts of the world, this grade of membership being open to anyone, anywhere with an interest in public health. It has affiliated members in several states, these being professional members of affiliated societies.

Fellowship is awarded to active members of two years' standing for meritorious service in their particular fields.

Sustaining membership is open to those who wish to contribute financially to the promotion of public health.

Active and associate membership dues are \$5.00 annually, affiliated membership dues are \$1.00, fellowship dues are \$10.00 and sustaining membership dues are \$50.00 or more.

The American Journal of Public Health goes to all members except affiliated members.

#### INVITATION

Theodore Roosevelt once said: "Every man owes something to the upbuilding of the profession to which he belongs."

Sanitarians will contribute to the upbuilding of their profession by joining the American Public Health Association and its affiliated societies, and participating in their activities. The American Public Health Association is the recognized society of the public health profession.

The Executive Secretary will be happy to forward application blanks upon request.

Address HOMER N. CALVER, Executive Secretary,  
American Public Health Association,  
370 Seventh Avenue, New York City.

Or blanks may be secured at the Chicago headquarters of the Association, Room 409 Hotel Stevens; Telephone, Wabash 4400.

#### CLINICAL CONGRESS OF PHYSICAL THERAPY AND SEVENTH ANNUAL MEETING AMERICAN COLLEGE OF PHYSICAL THERAPY

Announcement is made of the third clinical Congress on Physical Therapy in conjunction with the seventh annual meeting of the American College of Physical Therapy, to be held at the Hotel Stevens, Chicago, October 8 to 13, 1928. For the past year plans have been under way to make this 1928 Congress the most interesting one ever conducted and one which will be difficult to surpass in the future. So many novel and attractive features have been injected in the six-day program that no physician, whether he is now doing physical therapy or whether he plans to do it later, can possibly afford to absent himself from this scientific gathering.

The scientific addresses to be presented are of vital importance to the medical profession and will come from leading European and American authorities on the basic and practical phases of physical therapeutics. Symposiums on Cancer and Tuberculosis, the newest scientific information in these fields should attract physicians from all sections, for no two problems in the field of medicine require more thorough and extensive research and elaboration than these. Sectional meetings in *medicine*, *surgery*, and allied branches, and in eye, ear, nose, throat and oral surgery will be of interest to specialists in their respective fields, and for those who are new in physical therapy, special instruction classes in the physics and practical application of the various physical agents have been arranged.

Dr. Carl Sonne of the Finsen Medical Light Institute, Copenhagen, Denmark; Cav. Prof. Dr. Donato de Francesco of Venice, Italy, and Dr. A. R. Friel of London, England, will expound the results of their personal investigations in their respective specialties, while over one hundred leading physicians and teachers from all parts of North America will complete a program that cannot help prove inviting to every worker in physical therapy.

The technical and scientific exhibits will furnish an array of material that you will want to see. The demonstration clinics, the group conferences, the clinical addresses, the round table talks and the hospital clinics make up other parts of the program. No expense has been spared to bring together the best talent available, so that this event should prove an unusual scientific forum for the discussion of diathermy, light galvanism, x-ray, radium, massage, sinusoidalism, therapeutic exercise, etc., etc.

Physicians, their non-medical assistants and techni-

cians, and hospital executives properly vouched for, are invited to attend all sessions for which only a nominal registration fee will be charged.

Write for program, registration card and other information now, as early registration by mail is urgently solicited because the instruction classes are limited.

#### AMERICAN COLLEGE OF PHYSICAL THERAPY,

Suite 820-30 North Michigan Avenue,  
Chicago, Illinois.

#### RABIES A MENACE

The unusually menacing situation with regard to rabies has been brought to the attention of the public by the public relations committee of the Institute of Medicine of Chicago, consisting of Prof. Edwin O. Jordan of the University of Chicago and Dr. Ernest E. Irons, dean of Rush Medical College. The statement follows: During the last year the danger of injury and death to the citizens of Chicago from the bite of rabid dogs has greatly increased. It is believed that at the present time the peril is sufficiently great to justify a public and urgent warning. The facts, as furnished by Dr. Arnold H. Kegel, commissioner of health, are as follows: the number of rabid dogs has risen enormously in recent months as shown by laboratory examination. In the five months from January to May, 1926, the number of dogs' heads examined in the laboratory of the health department numbered sixty, of which five were from rabid animals; in the same period in 1927, fifty-six were examined, of which eleven were positive, while in the first five months of 1928, 704 heads were examined and 561 gave evidence of rabic infection. In May, 1928, there were almost as many dogs' heads examined as in the whole year 1926, and seven times as many were found positive. Since August, 1927, 1,046 persons known to have been bitten by rabid dogs have been given the Pasteur treatment by the department of health. This figure does not represent the total number treated since many persons receive treatment from private physicians. The treatment, as is well known, is highly effective if begun in time, but is expensive and time consuming. The situation is unprecedented in the history of Chicago and probably in that of any other large American city. While from August, 1919, to August, 1927, no human deaths from rabies were reported in Chicago, in the last ten months there have been nineteen deaths; in the year 1927 there were only fifty-nine human deaths from rabies in the whole United States. The emergency demands prompt and drastic action. It is well known that rabies can be eradicated by the restriction of the liberty of unmuzzled dogs to the premises of their owners and the destruction of all stray unmuzzled animals. The co-operation of closely adjoining communities will insure the success of this plan. The machinery is ready to hand. Strict enforcement of the city ordinance for at least ninety days should be effective. Valuable

individual dogs may be protected to some degree by vaccination against the bite of their rabid fellows, but for community protection the method is probably too expensive and difficult of application at the present time. It is inconceivable that the prevalence of rabies in Chicago shall be allowed to go on from bad to worse until scores of children and hundreds of valuable dogs have been sacrificed. All the resources of the community available for stamping out rabies should be placed at the disposal of the official health agencies.

Journal A. M. A.

#### AND THESE ARE THE LEGS I REMEMBER

When I was a lad of eleven or so,  
If memory serves me a-right,  
The legs of the maidens I happened to know  
Were always in obvious sight.  
Their stockings were black, with a high button shoe,  
In summer as well as December.  
I turn back the pages of childhood's who's who,  
And these are the legs I remember:

Lulu's were lumpy, and Ollie's were thin,  
Bess ran to ankles and Susie to shin,  
Nellie's were knock-kneed, and spread like a fan,  
Fanny had fat ones that shook when she ran.

Well—thirty-odd years are supposed to pass by;  
In fact, that is just what occurred;  
The legs of my childhood concealed from the eye  
By skirts, as you doubtless inferred.  
Then fashions for women restored them to view,  
Commuting their term of obscurity,  
And every fond leg that my infancy knew  
Now offers itself in maturity:

Lulu's still lumpy, and Ollie's still thin,  
Bess has more ankle and Susie more shin,  
Nellie's still knock-kneed (I laughed when she sat)  
And Fanny's are fatter—no doubt about that.

— The L. H. J.

#### TAKE YOUR BREATH AWAY

"Say, Rastus, I'se gettin' scared. I'se just been a-readin' statistics here—and dey say dat every time I breathe a man dies."

"Lordy, man! Back up and hol' your breath!" admonished Zeke. "Don't you all know dat you ought to run to a doctor 'bout dat halmytoesis of your'n?"

#### A LAWYER'S, NOT A DOCTOR'S ADVICE

"What's the matter, old boy?" asked Jimmie's friend. "I've never seen you looking so seedy."

"I've got to go abroad at once," remarked Jimmie gloomily.

"Nonsense! These doctors mustn't frighten you out of your life like that."

"It wasn't a doctor. It was a lawyer."



## Original Articles

### PRESENT DAY VIEWS ON GOITER, FROM THE STANDPOINT OF THE SURGEON

DAVID C. STRAUS, M.D.\*

CHICAGO

Under the general term goiter, are included all enlargements of the thyroid gland. These comprise:

1. Physiological enlargement.
  - Adolescent goiter.
  - Goiter of pregnancy.
2. Simple goiter.
  - Adenoma—diffuse or circumscribed, fetal or acquired.
  - Colloid goiter.
  - Cysts.
3. Toxic adenoma (secondary hyperthyroidism).
4. Exophthalmic goiter (primary hyperthyroidism).
5. Malignancy of the thyroid gland.
6. Thyroiditis.
  - Acute.
  - Chronic.
    - Ligneous thyroiditis.
    - Tuberculous.
    - Syphilitic.

*Simple goiter* is one of the most widespread diseases in this country and surveys by Public Health Authorities have shown that fifty per cent of the children in goiter districts are affected. In these same districts numerous adults suffer from adenomas which develop from simple goiters uncared for during adolescence, while still later, some of these adults with adenomas, develop carcinoma of the thyroid from these adenomas. Marine and Kimball deserve great credit for they were the first to institute systematic goiter prevention in school children by administering minimal doses of iodine during the school year. Their results were convincing and immediately after the publication of this data, Switzerland, the most goiterous country in the world, started goiter prophylaxis in its schools, giving one tablet containing 10 mg. of iodine (about 1/6 gr.) to each child, once a week, during the forty school weeks of the year.

The striking results, after continuing this method for four years, is shown by the fall in incidence of goiter in one Canton, from 87.6 per cent in 1918, to 13.1 per cent in 1922. Kimball (in 1925) recommends one tablet daily for thirty days, during alternate months.

Iodine should be used thus only in persons under twenty years of age. The adolescent goiter, ordinarily a goiter of the pure colloid type, a smooth, symmetrical bilateral enlargement, usually disappears under iodine medication, though not always. If adenomatous goiters are present, these may decrease in size but will not disappear. *After adolescence, a well developed adenoma should always be removed* for it is well recognized today that ninety per cent of cases of malignancy of the thyroid, develop from pre-existing adenomas. Our best means of preventing cancer of the thyroid, consists in surgical removal of all adenomatous goiters in adults. The particular type of adenoma which gives rise to carcinoma is the fetal adenoma. These originate from the so-called "Wolfler's rests" and are well capsulated tumors, as a rule.

The use of iodine during pregnancy is entirely a question for the internist, general practitioner and obstetrician. It is well known, even by the laity, that a pre-existing goiter enlarges during pregnancy, and there is a tendency for the normal gland to show some enlargement due to the extra work it is called upon to perform. The gland not only has the usual call for the metabolism of the mother, but in addition, there is added the metabolism for the fetus. However, unless the mother is under twenty-one years of age, pregnancy will not cause a goiter to develop. Therefore there is no necessity of administering iodine during pregnancy in order to prevent goiter in the mother, except that, in the absence of an adenomatous goiter, iodine may be given in small doses, five to ten milligrams a week, in order to satisfy the demand of the thyroid gland of the fetus and thus tending to prevent the future development of a colloid goiter. In young mothers, especially those with a colloid goiter or the remains of one, iodine is particularly indicated so that they may be able to supply an adequate amount of iodine to the fetus. In passing I wish to call attention to the fact that whenever a patient with exophthalmic goiter becomes pregnant, prompt thy-

\*Read before the Will County Medical Society at Joliet, on March, 1928.

From the Goiter Group at Michael Reese Hospital.

roidectomy is usually indicated. Pregnancy greatly aggravates exophthalmic goiter.

The following are the indications for operation in the case of simple goiters:

1. For cosmetic reasons.
2. Because of pressure symptoms, if these exist.
  - (a) Difficulty in breathing (dyspnea), at times accompanied by cyanosis.
  - (b) Difficulty in swallowing (dysphagia).
  - (c) Pressure on recurrent laryngeal nerve, as evidenced by brassy cough, change of voice, etc.
  - (d) Intrathoracic location.
3. Adenomatous goiters, to prevent later possible development of malignancy, especially when discovered in adults; best even in young persons past the age of adolescence.

In some of these simple goiters with pressure symptoms, while ordinary inspection and palpation may not disclose a mass of any appreciable size, a roentgenogram may often yield surprising evidence of tracheal compression or displacement. This is all the more true if the goiter is intrathoracic in location.

The treatment, of course, consists of resection of the mass, but no such complete resection as in cases with hyperthyroidism. The amount of gland that should be left is approximately that of a normal gland. It is not infrequent, in cases of large colloid goiters with pressure symptoms; to find basal metabolic rates considerably below 0, that is associated with hypothyroidism. In such a case, if enough gland is removed to relieve the pressure symptoms, it may even be necessary to feed thyroid gland or thyroxin after the operation.

*Toxic adenoma* (secondary hyperthyroidism).—This group comprises those cases in which a simple goiter has been present usually for years, with no evidence of hyperthyroidism in which later, and usually very insidiously, symptoms of hyperthyroidism make their appearance. An adenoma is present on an average of fifteen years before the symptoms of hyperthyroidism develop. The onset of symptoms differs strikingly from that seen in typical exophthalmic goiter. In exophthalmic goiter these symptoms come on rapidly. In the toxic adenoma group, the onset of symptoms is so insidious that the patient often does not realize any change in his condition and consequently does not consult a

physician until organic damage to the vascular system has taken place, especially to the heart muscle. Seventy-five per cent of these patients are more than forty years old. They rarely are aware that there is any association between their nervousness and other symptoms of hyperthyroidism and their goiter. They often have been under some physician's care for disease of the heart or kidneys or for high blood pressure. Many will have noticed spells of palpitation. There may have been spells of cardiac decompensation with dyspnea. The heart is often enlarged and there is frequently auricular fibrillation and myocardial degeneration as evidenced by irregularity of the cardiac rhythm and pulse. All the symptoms of hyperthyroidism may be present, but in general, they are less marked than in the typical exophthalmic goiter patient. The two chief points of difference are that there is a tendency to hypertension and the heart symptoms often predominate in the picture. The systolic blood pressure is elevated, but the diastolic pressure is essentially normal. This gives a high pulse pressure, chiefly due to elevation of the systolic pressure. In exophthalmic goiter, on the contrary, there is also a high pulse pressure, but here it is not so much due to elevation of the systolic pressure, for this is ordinarily but slightly if at all elevated, but due to a fall in the diastolic pressure. Lahey and Hamilton have described this group of cases with marked cardiac damage, as "Thyrocardiacs," and have contributed much valuable information. Today every case of tachycardia heart disease must be considered as of possible thyroid origin and studied accordingly—i. e., two or more basal metabolic rate tests should be made.

It is now well recognized that with proper digitalization, many of these patients with auricular fibrillation will be relieved of their irregularity and restored to regular rhythm, and that even though the irregularity persists, most of these cases can be operated on with surprising impunity. A small percentage of the group with chronic *constant* auricular fibrillation never do show a return to regular rhythm. The point of outstanding interest is that subtotal thyroidectomy by promptly and permanently relieving the patient of hyperthyroidism, promptly restores the heart rhythm to normal, even within twenty-four hours, and that this regular rhythm is often permanent, even in patients who have



had irregular heart action for months or years.

In this connection, I wish to refer to two cases recently in our goiter group at the Michael Reese Hospital. Dr. Hamburger, who spoke before this society about a year ago on the subject of goiter from the standpoint of the internist, handles the medical care of these cases and I the surgical. The two cases I wish to mention were both in the hospital at the same time. The one was a typical thyrocardiac—a patient with hyperthyroidism and auricular fibrillation. In spite of long, persistent attempts to control the fibrillation, using digitalis, ergotomine, etc., the fibrillation continued. Finally, we decided to operate, even though the patient was fibrillating and the result was brilliant; fibrillation ceased the same day and has not returned. The second case, a patient with myxedema, was being treated with thyroid extract in increasing doses. She had never fibrillated. But when the dose of thyroid extract reached fifteen grains, it was noticed that she began to fibrillate. The dose was promptly reduced, and fibrillation promptly ceased. These two cases show the definite relationship between an overdose of thyroid secretion and auricular fibrillation.

The gland in many of these thyrocardiac cases is not only not enlarged, but it is even smaller than normal. Also, with proper preparation, these thyrocardiacs may be operated on even though in partial decompensation. Lahey recently reports operation on fifty of these decompensated cases, with only three deaths. Practically all the others regained compensation.

In one clinic the use of digitalis is carefully avoided, and these surgeons believe that their discontinuance of digitalis is the only factor that has been responsible for the reduction in their mortality rate. Digitalis has been of great value in my hands, but it should only be used when cardiac decompensation is present or beginning. *It should NOT be used merely to slow a rapid pulse*—i. e., in an attempt to control the tachycardia. If the heart muscle is normal it can only do harm.

*Exophthalmic goiter* (primary hyperthyroidism).—This disease is sometimes referred to as primary hyperthyroidism because (contrary to the so-called toxic adenoma cases—referred to as secondary hyperthyroidism) in exophthalmic goiter the onset of the hyperthyroid symptoms occurs simultaneously with the appearance of

the goiter. The classical picture of a frank case of exophthalmic goiter is so well known that the diagnosis is simple. On the other hand, borderline cases are most difficult to diagnose, at times. The four cardinal signs, goiter, exophthalmos, tachycardia and tremor are not always present. Exophthalmos is often absent. Eye-signs, other than fixation, are not reliable and are often due to conditions other than hyperthyroidism and are often absent in frank hyperthyroidism. This is particularly true of lagophthalmos. The one most reliable symptom is fixation or stare. It is rare to see a case of primary or secondary hyperthyroidism without some degree of stare.

*Goiter*.—It is generally known today that the size of the thyroid gland bears no relation to the degree of hyperthyroidism. One should not hesitate in making a diagnosis of hyperthyroidism because the thyroid gland is normal in size, or even smaller than normal.

*Tachycardia*.—Tachycardia is probably the best guide in arriving at the diagnosis, especially in conjunction with the finding of a high basal metabolic rate. In general, the pulse rate and the intensity of the hyperthyroidism go hand in hand, although this is not always the case. I have repeatedly seen patients in the hospital who were definitely very toxic and had a high basal metabolic rate, in whom the pulse rate was not proportionately elevated, in fact scarcely higher than normal. In this connection it is well to point out that this is particularly apt to be the case if the pulse rate is taken when the patient is lying quietly in bed. For this reason, in borderline cases, it is desirable to take the pulse reading when the patient is up and about.

*Nervousness and Tremor*.—Both nervousness and tremor are unreliable symptoms because they are often present in the cases which simulate hyperthyroidism, that is, cases of neurocirculatory asthenia and in neurotic patients.

*Muscle weakness*.—Many patients with hyperthyroidism complain of a feeling of weakness of the knees and later find difficulty in walking up and down the stairs. Why the disease affects the quadriceps group of muscles is difficult to say.

*Progressive loss of weight with increased food intake* speaks strongly for hyperthyroidism and is characteristic. The only other condition where this is commonly seen is in diabetes. Later in the disease the patient may lose his appe-

tite and become nauseated at the mere sight of food, and may even vomit after being coaxed to eat. No case which comes under a physician's care while the patient has a ravenous appetite



Fig. 1. Photograph of patient, age 23 years, with exophthalmic goiter of six months duration. Photograph a few days before operation. Note high degree of exophthalmos. (June, 1925.) Under Lugol's solution her basal metabolic rate dropped 70 points before operation, from +90.8 on June 17, 1925, to +30.1 on June 24, 1925. Weight 98 pounds.

should be allowed to go without operation until nausea and vomiting occur.

*Basal metabolism* unless correlated with clinical evidence is valueless, but associated with clinical findings, is of greatest value. One must constantly bear in mind that there are chances for error in basal metabolism reports, due to variations in the apparatus, the skill of the technician and the conduct of the patient. One should never rely on a single basal test alone.

*Hyperthyroidism in children.*—Hyperthyroidism not infrequently is seen in children, and in most cases no etiological factor can be determined. The disease in children begins suddenly and runs a rapidly progressive course. Iodine administration is of very little value as a rule. These cases require very careful preparation for, in children, thyroidectomy is likely to be followed by severe and even dangerous reaction. Greatly emaciated children are bad surgical risks, but are more likely to show more improvement after polar ligation than that usually seen in adults.

*Preoperative preparation.*—The greatest ad-

vance in goiter surgery in the last four years, has been due to the use of iodine in the pre-operative preparation of these patients. The routine use of iodine for this purpose will be referred to later in detail.

Any patient with hyperthyroidism with beginning vomiting, diarrhea, marked excitement or delirium is having or is about to have a crisis and should be treated with iodine, fluids, glucose and morphia. In my own cases I have found the following treatment to be of the greatest value:

1. The administration of five per cent glucose solution using 200 cc. as a rectal infusion, twice daily, every other day.

2. Pushing fluids, especially water, administering at least 3000 to 5000 cc. daily.

3. Giving 15 grains of calcium lactate by mouth twice a day. This slows the pulse and increases the efficiency of the heart. It is well known that an increase in calcium ions of the



Fig. 2. Photograph of same patient a few days after operation and before clips were removed which was done on the fifth day. Note complete change of countenance and definite decrease in exophthalmos even at this early date.

blood will slow the pulse rate and increase the efficiency of the heart. Rienhoff points out that the contractile power of heart muscle is diminished when solutions which contain no calcium



or an infinitely small quantity are perfused through a heart, experimentally.

4. Where prompt improvement is not shown, administering 500 cc. of ten per cent glucose solution intravenously.

5. In order to control unusual excitability or stubborn insomnia, luminol is given,  $1\frac{1}{2}$  grains at each dose, every six or eight hours. If, for any reason, some other drug is desired, paraldehyde may be used, giving 30 minims every six or eight hours.

6. Morphin sulphate, in  $1/6$  grain doses as indicated. In some individuals it causes unpleasant symptoms—nausea, vomiting, tachycardia and excitement—and in these, of course, it must not be used.

Plummer deserves great credit for the present routine use of iodine, in the preoperative prep-

high level. For this reason, iodine must not be used as a form of treatment, but merely as a means of preparing these cases for operation.

In my own experience I have found that the great majority of cases need iodine preoperatively for only seven to ten days, but in some cases I have found the greatest benefit did not follow until the end of two or even three weeks. I have had a case drop from +122 to +50 in seven days, and another from +91 to +30 in the same time, that is, a fall in basal rate of from 60 to 70 points in a week. In these extremely toxic cases I have had a fall therefore, amounting to 10 points a day!

*Toxic Adenoma.* Whereas there is general agreement among surgeons as to the value of iodine in the preoperative preparation of cases of exophthalmic goiter, there is great difference of opinion as to the advisability of using iodine before operating on cases of toxic adenoma. The Mayo Clinic taught that iodine should not be used in toxic adenomas and the majority of surgeons have been influenced by their teaching. However, more and more evidence is accumulating which shows that some of these cases do improve and in which examination of the specimen removed at operation shows that the thyroid presents no significant abnormality other than adenoma. In general, the majority of clinicians who see a large number of these cases believe that iodine does not produce as great benefit in toxic adenomas as it does in true exophthalmic goiter.

I have been interested in, and have been using iodine in cases of toxic adenoma preoperatively, since early in 1925. At first I gave these patients very small doses, only 3 minims, three times a day, and only when in the hospital where the effect could be carefully watched, so that if the pulse rate tended to rise, it could be quickly stopped. Later I increased the dose and recently I have been beginning with ten drops of Lugol's solution three times a day. I now have a number of cases where the benefit was definite. In one case in which histological examination showed adenoma and no finding of hyperplasia elsewhere in the gland, the pulse before giving iodine was 104 and the basal metabolic rate +50.4. The patient was given Lugol's solution, four drops three times a day for four days, then six drops three times a day for fourteen days, and finally ten drops three times a day for seven



Fig. 3. Photograph taken January, 1928, same patient three years later. Patient has gained over fifty pounds in weight. Note complete absence of exophthalmos.

aration of cases of exophthalmic goiter. He began his clinical tests in 1922 and found that the best results were obtained when ten minims of Lugol's solution were given three times a day for seven to ten days before operation. In exophthalmic goiter so treated, he together with Balfour, reported two-thirds will be greatly benefited, one-quarter slightly benefited, and the remaining one-twelfth not appreciably benefited. These observations have been amply confirmed, but it is now well known that if iodine administration is continued over a period of more than two or three months, the basal metabolism gradually rises and eventually reaches the former

days. Five days after beginning iodine therapy the basal rate was +30 and after 19 days it was +19.4. The pulse came down from 104 to 72.

Probably the most convincing report on the value of iodine in toxic adenomas is that of Graham and Cutler of Cleveland. For the purpose of studying the response to iodine in exophthalmic goiter and toxic adenoma, they selected only cases which had not had previous operative intervention, iodine treatment, x-ray or other therapeutic treatment and in which primary thyroidectomy followed the administration of iodine. So selected, they had four cases of toxic adenoma, with no exophthalmos and with no thrill or bruit. These four cases were not only not aggravated by the administration of iodine, but responded in the same manner and in about the same ratio as did the ten cases of exophthalmic goiter. In previously untreated cases, according to their experience, such a period of primary improvement following the administration of iodine has been the rule and not the exception. Increased basal metabolic rate and other evidence of thyrotoxicosis together with enlargement of the thyroid gland of any degree, they regard as sufficient indication for the administration of iodine, irrespective of the presence or absence of adenoma, but point out that cases of toxic adenoma require less iodine, and for a shorter period of time, than cases of exophthalmic goiter probably due to the difference in degree of glandular hyperplasia in the two conditions. My experience has not been identical with theirs in this regard—as to the amount of iodine and length of time of its administration—as can be seen from the case reported in detail above. They feel justified in recommending iodine preoperatively in all cases of toxic goiter, adenomatous or not, and I am of the same opinion.

Charles A. Elliott of Chicago, in a paper read before the Association of American Physicians, in May, 1926, reported his experience in the preoperative use of iodine in 18 cases of toxic adenoma and 18 cases of exophthalmic goiter. Thirteen of the former and fifteen of the latter showed more than fifty per cent, decrease in the basal metabolic rate. He expressed his surprise to find that there was very little difference in the response to iodine in the two groups.

In a recent study of 122 cases of thyroid disease, excluding carcinoma, made at the

Michael Reese Hospital by Drs. Portis and Rubin, and checked by our pathologist, Dr. Schultz, in which the clinical manifestations and histological findings were correlated, it was found that 74.6 per cent of the 61 cases receiving iodine were benefited by iodine therapy, irrespective of whether the thyroid gland showed hyperplasia, no hyperplasia, or degenerative changes. The 122 cases included 44 adenomas. Of the 44 adenomas studied, 15 were treated by iodine; 10 of these 15 cases, improved very definitely. Five did not improve, 2 of the 5 were made slightly worse.

It seems likely that our present ideas in regard to adenomas are likely to need modification, and particularly regarding the use of iodine preliminary to operation in toxic adenomas.

Rienhoff, of Johns Hopkins, has recently submitted a new, and to my mind, a convincing explanation of the genesis of the nodules or so-called adenomas, in the group of cases we have been calling toxic adenomas. He believes these nodules are the *result of* and not the cause of the disease. He points out that "microscopic structure of the thyroid gland, viewed at any one period, is the result of the action of two opposing factors, the one producing hypertrophy and hyperplasia and the other involution of the parenchyma. Recent investigation has revealed that involution of a previously hyperplastic gland is characterized, throughout the greater portion of the thyroid, by certain histological changes. These consist essentially in decrease in the cytoplasmic elements, increase in the formation of fibrous tissue, and decrease in lymphocytic infiltration. This degree of involution has been termed the usual or average amount.

However, in certain areas, and confined as a rule to one lobule, the degree of involution exceeds the average and goes on to the formation of localized areas of large dilated colloid containing acini, encapsulated by compressed intra and interlobular stroma. Such an area has the microscopical appearance of an encapsulated co-called colloid adenoma. In other lobules, the parenchyma is composed of small round acini of the fetal type.

These *areas of hyperinvolution* have the exact microscopical appearance of the so-called colloid cystic, mixed fetal and colloid, and fetal ade-



nomata. Although they can be detected clinically as tumors, they are not true neoplasms or adenomata, because they have been observed to occur concomitantly with involution of the gland and artificial clinical remission. They are degenerative sequellae of previous hypertrophy and hyperplasia of the parenchyma, and are observed to occur in cases undergoing spontaneous as well as artificial remission. Each succeeding disease cycle causes an enlargement of these involutional bodies, with a more pronounced definition of their capsules. In other lobules, areas of persistent hypertrophy and hyperplasia are observed, in which the parenchyma *resists* the factors that bring about involution of the remainder of the gland. These have been termed *areas of hypoinvolution*.

All the involutional bodies maintain the microscopical structure of the thyroid gland.

These bodies form about ninety-five per cent (Rienhoff) of the nodules or tumors encountered in the thyroid glands. They are palpable clinically as tumors. They may be multiple or single. As a rule they are multiple.

True parenchymatous adenomata, often called fetal adenomata, do occur, but they compose only about five per cent (Rienhoff) of all the benign tumors or tumefactions of the thyroid. In these true fetal adenomata, the intralobular structure of the usual thyroid parenchyma is *not* maintained.

The involutional bodies or tumors, then, are the result and not the cause of hyperthyroidism, and can be histologically differentiated from true benign neoplasms. They are a phase in the disease cycle and are, as would be expected, larger and more numerous in those low grade cases of hyperthyroidism which have undergone many remissions and exacerbations (the older patients), thus being frequently associated with cardiovascular lesions.

Viewed from this standpoint, as well as from clinical evidence, and the response to iodine therapy, it seems more than likely that exophthalmic goiter and toxic adenoma are only variations of a single morbid state. Exophthalmic goiter may be looked upon as the more acute type, and toxic adenoma as the more chronic slowly progressing type.

*Treatment.* It is important to bear in mind that whenever a patient with hyperthyroidism, either exophthalmic goiter or toxic adenoma, is

simultaneously suffering from some other surgical lesion, such as a chronic cholecystitis or appendicitis, thyroidectomy should be performed before operating for these other conditions, unless they present an unavoidable emergency.

The usual treatment for cases of exophthalmic goiter or toxic adenoma is subtotal thyroidectomy. Without wishing to take up the question of preliminary polar ligation and multiple stage operations, I may say that in my practice, ethylene is the anesthetic of choice though local is used in some cases. I use the collar incision, reflect the skin and the platysma muscle upward and downward as one flap. The skin and platysma muscle are divided together and reflected together. The upper flap is reflected at least as high as the hyoid bone and the lower flap as low as the jugulum. The veins are not ligated unless they have been injured. The deep cervical fascia is incised in the median line from the level of the hyoid bone to the jugulum. As a rule, I do not divide the prethyroid muscles but reflect them laterally. Occasionally where this does not give easy exposure I do not hesitate to divide the prethyroid muscles on one or both sides. The right superior artery is next exposed, doubly ligated with No. 2 chromic catgut well above the pole of the gland. The tip of the pole grasped with a cystic duct forceps and the artery divided between the clamp and the distal ligature. The upper portion of the isthmus is then freed from the trachea and great care to remove completely any pyramidal lobe which is present. Next the left superior polar artery is doubly ligated and divided, just as was one on the right side. This sequence is followed so that in case the patient cannot withstand more surgery at this time, the operation can be discontinued at this stage and resection of the gland can be completed at a second operation with great ease. Next, the isthmus is bluntly separated from the front of the trachea, doubly clamped and divided. I always like to add this step if possible because it relieves tracheal compression. Next, the right lobe of the gland is resected, leaving only a small portion of the lower pole and the posterior portion of the gland and capsule adjacent to the trachea, so as to avoid injury to the recurrent laryngeal nerve and the parathyroid glands. In this resection I always work from the midline laterally and the

amount of the gland that is left is relatively the size of the distal phalanx of the little finger.

The left lobe is then similarly resected. After ligating all bleeders most carefully so that the field is in reality dry, the deep cervical fascia is sutured together in the median line down to a rubber tube placed at the lower angle. Skin flaps are closed by means of Michel clips and one small, plain catgut suture is placed in the median line which is used to suture the rubber drain in place.

In my experience at the Michael Reese Hospital, where I have been surgeon at the head of the Goiter Group since January, 1925, operating on all of the service cases, leaving this small amount of gland has given excellent results, the basal metabolic rate at the time the patient leaves the hospital usually being about 0, occasionally a few points above or below; we have had no cases of tetany so far as we are aware, although this has been examined for by the other members of the group and but a single case has returned with a remission which required a secondary operation.

*Recurrence.* The prevention of recurrence is an important question in the surgical treatment of hyperthyroidism. Recurrence occurs in approximately 5.7 to 8 per cent of cases, according to available statistics, even in the hands of the most competent surgeons. It is well recognized that the four following factors are chiefly responsible for recurrence:

1. Too early resumption of mental or physical exertion; i. e., worry and work.
2. Infection. Failure to note and remove foci of infection.
3. Failure at operation to remove sufficient amount of gland. This I believe is the most common reason.
4. Pregnancy too soon after operation.

In the last few years, since the preoperative administration of iodine has become so well established, there has been considerable discussion as to whether or not the post-operative administration of iodine may not be of value in preventing recurrence. Else, of Portland, Oregon, read a paper on this subject at the last annual meeting of the American Medical Association, in May, 1927, and concludes that recurrence following operation depends on the control of regeneration and that thyroid regeneration can be controlled in animals, by compound solu-

tion of iodine and that for the last two years he has been giving this solution after operation and since that time has not seen any evidence of recurrence. Following the operation, the thyroid is kept saturated with iodine during the period of regeneration by giving the patient from 15 to 25 minims of Lugol's solution by rectum as soon as he has returned to bed, this dosage being repeated three to four times daily according to the severity of the hyperthyroidism preceding the operation. As soon as the patient is able to take it by mouth, 10 minims is given three times a day for a month. Then the dose is cut down to 10 minims daily for another month. A sufficient amount of iodine to meet the needs of the thyroid gland is administered continuously. For this he prescribes the iodized salt if other members of the family have normal thyroid glands; otherwise he gives 10 mg. of iodine, in a chocolate tablet, daily.

In the discussion, *Sloan of Cleveland*, pointed out that it is possible for a thyroid gland to enlarge even when it has sufficient iodine and that we are not invariably able to control the hypertrophy of the thyroid with iodine following operation. Some thyroids enlarge after operation, in spite of iodine. He believes these are the ones in which an infectious focus is to blame, in a great many instances.

*Clute of Boston*, said he had been using iodine after operation for the last year and a half or two years, with the idea of preventing recurrences, but that to date he is unable to say that his operations for persistent or recurrent hyperthyroidism are any less numerous than they were. He still feels that iodine should be given for the prophylaxis of recurrence, but as yet, he has not seen any great advantage from it.

*Crile*, on the other hand, carefully avoids iodine after operation. He noticed, shortly after the use of iodized salt became general, that for some reason more patients complained of nervousness and tachycardia after operation, than had previously been the case. Investigation showed that these patients were using iodized salts, and in many such instances the symptoms disappeared when the use of the iodized salt was discontinued. For this reason, in addition to the fact that he occasionally sees cases in which the *primary* development of hyperthyroidism has apparently been entirely due to the use of iodized salts, he advises against the use of this prepara-



tion after operation, and his directions for diet forbid foods containing any appreciable amount of iodine.

*In my own experience* during the last three years, I have had only two recurrences, that I am aware of, and in only one of these has it been necessary to reoperate. I shall show you lantern slides of this patient). The other case is now apparently responding to x-ray treatment.

The postoperative administration of iodine has always remained an unsettled question in my mind. There is no question but that large doses are indicated immediately after operation. I ordinarily give 50 minims, in tap water, as a retention enema twice on the same day; 30 minims or 25 minims, three times on the day following; then rapidly decrease the dose till a few days after operation the patient receives 10 minims three times a day by mouth, during the entire time the patient is in the hospital.

How long a time iodine should be administered and in what dose is still an unsettled question in my mind, but I am inclined to agree with Means of Boston who believes minimal doses, i. e., as 3 minims daily, may be advisable for a long time. It is a problem which further experience alone can settle, when sufficient data from the important clinics all over the country has been accumulated and analyzed.

*Malignant diseases of the thyroid.* Ninety per cent of the cases of malignancy of the thyroid are malignant adenomata, five per cent are primarily carcinoma, and about five per cent sarcoma of the thyroid (Crile). The only way in which the incidence of carcinoma of the thyroid gland can be reduced, is by the early removal of all adenomatous goiters. Surely no adult should be allowed to carry a nodular goiter because of this risk. Whenever a nodular goiter in an adult shows a sudden rapid increase in size, and particularly if this is associated with pain, carcinoma must be suspected. Whenever the malignancy has penetrated through the capsule of the gland the prognosis is universally bad. Fixation of a suspicious gland shows this has already occurred, and in such a case, it is better to resort to x-ray treatment than to attempt radical operation. Following x-ray treatment, the gland gradually becomes more and more hard and the patient may be able to survive for years. In such cases, where the gland is not perfectly

freely movable, and where radical operation cannot be advised, one indication for operation may be partial resection for the relief of pressure symptoms, such as marked tracheal compression. Thyroidectomy, followed by x-ray treatment has not been satisfactory in my hands.

#### INFLAMMATION OF THE THYROID GLAND

A. *Acute thyroiditis.* Goiters are more likely to be affected by acute infection than is the normal thyroid gland. It may result from direct injury to the gland or from general infection reaching the gland through the blood stream. It occurs in typhoid fever, malaria, pyemia, puerperal fever, pneumonia, scarlet fever, and other exanthemata, and from tonsillitis and rheumatic fever, as well as even from severe constipation.

The symptoms and findings are those of acute inflammation generally; i. e., local pain, swelling, and fever. Later, if the abscess lies superficially, and is about ready to rupture, redness appears. The symptoms may become severe when the rapidly enlarging swelling presses on the trachea and the nerves of the neck, producing severe dyspnea, difficulty in swallowing, and pain is severe on swallowing, or on turning the head. The condition may undergo resolution or may result in necrosis and abscess formation.

When the condition is caused by rheumatism, malaria or measles, it does not usually proceed to suppuration. When due to scarlet fever, typhoid fever, or puerperal fever, suppuration almost always occurs. When suppuration is not going to take place, resolution is likely to begin at about the seventh to tenth day. At the outset, the treatment consists in rest in bed and hot moist applications.

As soon as the presence of pus is suspected from the local and general symptoms, immediate operation is indicated. Large incisions are demanded to give free drainage. Early drainage is demanded because of the danger of perforation of the trachea or esophagus (with resultant death from asphyxia), mediastinitis, and destruction of the parathyroids, with resulting tetany.

B. *Chronic thyroiditis.* The condition of "ligneous thyroiditis" or "woody thyroiditis" is a very chronic inflammation of the thyroid gland, which does not proceed to suppuration but results in a woody hard swelling of the gland and to adhesions to the large blood vessels and

to the recurrent laryngeal nerve. For this reason it may be very difficult to differentiate it from cirrhus carcinoma of the thyroid. Biopsy, however, shows merely scar tissue with very few cells. The disease is rare, and usually occurs in patients over thirty years of age. The basal metabolic rate is ordinarily below normal, due to the fact that the thyroid tissue is replaced by connective tissue in large part. I have operated on only one case. It occurred in a woman of about sixty. Basal metabolic rate was +35.

*Tuberculosis of the thyroid gland.* This is also of comparatively rare occurrence, is usually operated on under the diagnosis of mild hyperthyroidism, and the correct diagnosis only established from the microscopic study of the tissue removed.

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#### REPORT OF THE MEETING OF THE AMERICAN COLLEGE OF PHYSICIANS, HELD IN NEW ORLEANS

SAMUEL E. MUNSON, M.D., F.A.C.P.,  
SPRINGFIELD, ILL.

The Twelfth Annual Meeting of the American College of Physicians was held in New Orleans, March 5 to 9. This was considered one of the most satisfactory meetings, if not the most successful, in many ways, that has ever been held by the College.

As one of the oldest and most unique cities in the United States, New Orleans has for many years been known as a convention city. At this season of the year the climate is mild, and one can enjoy the warm sunshine out-of-doors without an overcoat. The proverbial southern hospitality is everywhere felt, no effort being spared to make our stay in the city both pleasant and profitable.

Dr. John H. Musser, head of the Medical Department of Tulane University, and Chairman of the Committee on Arrangements, deserves great credit for his work in arranging the program for the entertainment of the Fellows, as well as the splendid hospital clinics that were held in conjunction with the convention during the week. In this he was assisted by the faculty of the Medical Department of the University, as well as the physicians in New Orleans. Clinics were presented by men on the teaching staff of the various hospitals, as well as from other medical centers throughout the country.

Dr. Frank Smithies, President, expressed the appreciation of the College of Physicians for the accomplishment of Dr. Musser and his committee in arranging the program, and declared that the medical education of any American physician is not complete until he has visited New Orleans as a professional student, because here are to be found diseases for clinical study unobtainable elsewhere in the country.

Tulane University, on account of its location, has a department called the Tropical School of Medicine, from which special study and research work is done along the lines of diseases of the tropics, which are brought to New Orleans through its vast shipping trade, as the second largest port in the United States. Of particular interest is the opportunity for studying leprosy, amebiasis, and other tropical and sub-tropical diseases.

The foreign representatives who delivered addresses were Dr. Julius Bauer, Professor of Medicine at the University of Vienna, Dr. Aristides Agramonte of Havana, Minister of Health to the Republic of Cuba, and Sir Aldo Castellani, Professor of Tropical Diseases in the London Tropical School of Medicine, and head of the Tropical School of Medicine of Tulane University.

There were outstanding addresses by Dr. Maud Slye, Associate Professor of Pathology, University of Chicago, on "Cancer," and on "Tuberculosis" by Dr. Allen K. Krause, of Baltimore. There were symposiums on tuberculosis, epilepsy, infectious diseases and diabetes; and interesting discussions on anemias and heart diseases.

Dr. Bauer delivered an address on "Adaptation and Compensation as the Origin of Disorders." He explained that nature, at work in the complex human machine, seeks to adapt the animal mechanism to meet conditions imposed by injury, infection or destruction of organs, and to compensate for any disturbance of balance in the physiological system. The results of systematic adaptation to many disorders may be more distressing than the original cause. He referred to the theoretical impossibility of populations surviving under the starvations of war, but during the World War he admitted that the people of many countries not only lived, but did the impossible by doing it. Glandular adaptation made the war ration a practical thing under



the circumstances. We can only hope to gain complete knowledge of the succession of events in the human body, in order to treat disease competently.

Of the distinguished medical men who were invited to this meeting, none were more welcome or entitled to greater manifestation of regard and gratitude by New Orleans than Dr. Aristides Agramonte, of Cuba. Dr. Agramonte was born in Havana, and received his medical education in the College of Physicians & Surgeons in New York. The story of finding and proving the cause of yellow fever, as told by this the only survivor of the four men who faced death each day during that time, is one of the most interesting in the history of medicine.

Dr. Agramonte explained that prior to the end of the last century nothing of value had been done to solve the problem of yellow fever. He described various fraudulent undertakings by insincere scientists who attempted, through extravagant claims, to capitalize popular fear of the disease, and how unselfish service without expectation of reward in the service of humanity, did more to conquer the plague than the heavily endowed undertakings of avaricious experimentors.

The Mayor of New Orleans mentioned the debt of gratitude that New Orleans owed to the medical profession for wiping out yellow fever, so that they now had a healthy city, giving it equal opportunity with other American cities. Dr. Agramonte was given an ovation in the session, and was hailed as one of the greatest contributors to human welfare and health of modern times. It was very fitting that in the city which had probably been most greatly benefited by his efforts, he should have conferred upon him the degree of Doctor of Laws by the President of Tulane University, and members of the University Board.

One of the outstanding men of the world, as a teacher and his knowledge of tropical diseases, is Sir Aldo Castellani, head of the Tropical School of Medicine. Part of the year he lectures at Tulane, and part of the year in London. Dr. Castellani told of the various forms of mycoses, or diseases caused by fungus growths. He explained that fungus growths were of a slightly more complicated order than bacteria, and that certain fungi were capable of producing powerful toxins which might attack the body

externally, or any of the internal systems.

Dr. Castellani has recently had the honor of knighthood conferred upon him in recognition of his distinguished service to the British Government for work in the field of Tropical Medicine.

Dr. Maud Slye received an ovation by members of the College, after reading her paper on the results of nineteen years of experimental work on cancer, done in the laboratory with mice. Over this period of time she kept a careful history of twenty-five generations which included more than 67,000 individual mice of every known breed. She explained that the vastness of her experimental field left no possibility for coincidence, and seemed to prove beyond the possibility of dispute that cancer is not contagious. She showed that the disease in mice follows definitely the Mendelian law of inherited characteristics. It is through this knowledge that she has been able to eliminate cancer from cancerous families in mice in two generations, and it is by this knowledge and its application to the human race that she believes cancer in humans can be just as successfully eliminated, provided the proper records are kept and the proper breeding made possible. Heredity and the laws thereof have been more ignored in preventive medicine than any other scientific discovery, and heredity is the one thing which the theory of evolution means if it means anything.

In order that accurate pathological studies of human cancer subjects may be made available for adequate study of the disease and its elimination, Dr. Slye proposed that the College of Physicians establish a foundation of archives. She stated that two generations of medical men, supplying records of their own studies of cancer sufferers and persons of cancer genealogies, can account for four generations of clinical subjects, and thus in a comparatively short while, working as an organized science, can accomplish the impossible in making records.

After Dr. Slye had finished reading her paper, it was announced that a committee, for the purpose of establishing a foundation of archives, had been appointed by the Board of Regents, consisting of Dr. A. S. Warthin, University of Michigan, as Chairman, Dr. Chas. F. Martin, McGill University, Canada, and Dr. Frank Smithies, Illinois University, Chicago.

Dr. Allen K. Krause, of Baltimore, gave an address on "The Pathogenesis of Tuberculosis."

He made the interesting statement that tuberculosis is the price entailed by modern man in yielding to the stress and strain of living for his own pursuits under civilization. He declared there is ample reason to abandon the theory taught that primitive people are less resistant to disease than civilized races. Imposed civilization brings to tribal life new factors to which the tribe cannot quickly adapt itself, and whereas the savage may go to a civilized country and adapt himself, he cannot adapt himself to the unbalanced condition following an imposition of civilized conditions upon his own normal circumstances.

In the symposiums on tuberculosis, Dr. Charles L. Minor, of Asheville, N. C., pictured the physician in the treatment of tuberculosis as a psychologist, an inspirational lecturer, and a benevolent despot, who places his patients in suitable climatic conditions under a prescribed regimen of daily conduct and diet. He said there is unfortunately no way of measuring the constitutional and moral resistance of the patient, but we may estimate it reasonably.

Dr. F. M. Pottenger, Monrovia, Calif., read a paper on "The Cause of the Varied Clinical Manifestations in Pulmonary Tuberculosis" in which he discussed the symptoms of tuberculosis as the sounding of the tocsin for nature's battle in the body of the sufferer to destroy the germs of the plague. He referred to Dr. Minor's discussion of the need for a means of clinical determination of individual vital resistance, in order that the cell opposition to the disease might be supported and increased precisely as each case demands.

Tuberculosis was further discussed by Dr. Gerald Webb, of Colorado Springs, under the subject of "Infection and Treatment in Pulmonary Tuberculosis"; Dr. Robert S. Berghoff, Chicago, "Intestinal Tuberculosis"; and Dr. John W. Flinn, Prescott, "A Study of the Differential Blood Count in One Thousand Cases of Active Pulmonary Tuberculosis."

Dr. Louis Faugeres Bishop, New York City, presented a paper on control and treatment of heart disease. He said the proper control of the mental and physical activities of sufferers from heart disease is as important in the field of cardiology as organic therapy carried out through administration of drugs.

In dealing with the fear of death, Dr. Bishop

said his method has been to admit frankly the possibility of sudden death, but that of the multitude of people who suffer from heart disease, a very small number die suddenly.

A favorite suggestion for exercise is that the patient walk out of doors before noon daily, and continue up to the point of fairly definite fatigue. The principle that exercise should be taken before the work of the day, and not after it, is an important one. The business man who attempts to take exercise after his day's work benefits little from it.

Dr. Leonard G. Rowntree and Dr. George E. Brown, Division of Medicine, Mayo Clinic, presented a paper on "Studies in Blood Volume With the Dye Method." They are now assembling, in monograph form, the results of their studies during the past fifteen years of blood and plasma volume with the dye method. This was first introduced in 1915 by Keith, Rowntree and Geraghty. The method is by introducing into the circulation a known amount of nontoxic, slowly absorbable dye which remains in the blood stream long enough to determine its concentration colorimetrically. The extent of the dilution of the dye determines the plasma volume.

The increase in plasma volume is noted in the following diseases: Splenomegaly, splenic anemia, cirrhosis of the liver, hemolytic jaundice, and leukemia.

Obviously, more should be known fundamentally and clinically about plasma. The dye method of estimating blood volume as originally introduced is sufficiently accurate for clinical purposes, and is entirely free from danger.

The essayists believe that changes in blood and plasma volume are of sufficient value to warrant the adoption of this study in clinical medicine.

The subject of tularemia was presented by Dr. Walter M. Simpson, of Dayton, Ohio, with a clinical and pathological study of fifteen non-fatal cases and one rapidly fatal case with autopsy.

Dr. Simpson announced that the disease resulted from an organism which attacks rodents, squirrels and rabbits. It is transmitted to human beings by bites from these animals, or by fleas, ticks, and deerflies, which carry the disease just as the mosquito carries malaria and yellow fever.



He stated that one handicap in the work of the disease has been the fact that three out of every five investigators working in the laboratory have been attacked by the disease. These attacks have not been fatal, but have appeared in clinical form of the more serious variety, the course of the illness resembling normal cases of typhoid.

The season of tularemia east of the Mississippi river is the open period under the game laws when the cottontail is hunted and killed; west of the Mississippi the jack-rabbit is also commonly infected with the disease. Treatment of the fever is without serious problems if properly diagnosed, the Doctor said.

Dr. C. S. Holbrook, of the Department of Neurology, Tulane University, presented a patient at the Touro Clinic with paresis. Because he had developed immunity to malaria, it was decided to try rat-bite injection. In a few of these cases, inoculation with rat-bite fever has been tried and proven successful where they have failed to improve with inoculation of malaria. While the blood examination showed that the paresis was present for two years, indicating luetic infection, after the treatment of rat-bite fever injection, it became negative.

Rat-bite fever results from the bite of rats or other animals infected with the organism—*spirochetes morsus muris*. The organism was definitely isolated about three years ago. It is spirochetal in form, and found in the circulating blood.

After the infection, the incubation period may be from five to fourteen days. At that time there is noted at the site of the bite a sense of fullness with increased intensity, becoming swollen and painful, with involvement of the lymphatics draining the area. This is continued, with paroxysms of four or five day intervals, the disease in the human being probably lasting for several years. One case was reported of eight years duration, with periods of fourteen to twenty-eight days paroxysmal intervals.

The serum for injection as a cure for paresis is made by drawing blood from a live rat which is infected with the organism. Dr. Holbrook stated that live rats are the best test tubes. This method is not considered a cure, but has helped in the treatment. Small doses of salvarsan readily controls the infection.

Opportunity was given the Fellows of the Col-

lege to visit the Leprasarium at Carville; also to see cases of leprosy from this institution at clinics held each day at the Marine Hospital.

Dr. O. E. Denny, in charge of the Leprasarium, and who held the clinics, stated that because of the increasing interest shown by the medical world in the study of leprosy, and the continual investigation, he believed there would be found an absolute cure for the disease. During the past two years there have been several cases discharged from Carville following treatment—the Doctor said they did not call them cured, but rather arrested, because they did not know if the disease would make its appearance again.

The Phi Rho Sigma Chapter, D. O. A., of New Orleans, gave a luncheon at the old French restaurant, Arnaud's, with thirty-four Phi Rhos in attendance, which made a jolly group. The dinner was arranged by Dr. D. Mogabgab, to whose energetic efforts and splendid hospitality the success of the meeting was due.

Dr. H. Theodore Simon was the toastmaster, who introduced some of the visiting Phi Rhos who made short talks and recited reminiscences of college days.

At the election of officers for the coming year, the retiring President, Dr. Frank Smithies, of Chicago, was succeeded by the President-elect, Dr. Charles F. Martin, McGill University, Canada, and Dr. John H. Musser, Tulane University, New Orleans, was elected as President-elect.

The following Vice-Presidents were elected: First, Dr. Aldred Scott Warthin, Ann Arbor, Michigan; Second, Dr. S. Marx White, Minneapolis, Minn.; Third, Dr. W. McKim Marriott of St. Louis. Dr. George M. Piersol, Philadelphia, was re-elected as Secretary-General, and Dr. Clement R. Jones, Pittsburg, as Treasurer.

The next annual meeting of the College will be held in Boston, under the auspices of the Harvard Medical School, during the week beginning April 8, 1929.

It was impossible for the report of the New Orleans meeting to appear in the ILLINOIS MEDICAL JOURNAL at an earlier date, on account of the program of the annual meeting, and because of the space needed for the report of the business transactions of the meeting in the JOURNAL following.

## CLINICAL MANIFESTATIONS OF ENDURANCE (MARATHON) DANCING

MAX THOREK, M.D.,

Surgeon-in-Chief, The American Hospital

CHICAGO

A good deal of public interest was recently aroused by a public exhibition of endurance (marathon) dancing at the Chicago Coliseum. Many were of the opinion that such performances exposed the participants to such risk of physical injury, or even death, that they should not be allowed to continue the exhibition.

Four ultimate competitors, two males and two females, in this endurance contest were sent to the American Hospital immediately following the close of the eleven days' and nights' continuous dancing, with a request from the manager of the Coliseum that I might personally attend to them, possibly because it may have been thought that some condition requiring surgical or orthopedic aid may have developed. Although these patients scarcely came within the province of a surgeon, they offered a unique opportunity to make a thorough clinical investigation in the hospital of the effects of such dancing contests which might be of value as a record. This explains the fact that a report, which is more or less a clinicophysiological one, is offered as a contribution to medical literature by a surgeon.

Of the four final contestants the two females were professional dancers; one of the males was an athlete, the other a mechanic. On arrival at the hospital all four were immediately put to bed. They were all either asleep or very sleepy, and more or less completely exhausted. During their short sojourn in the hospital the condition of each of these patients was very carefully investigated, as far as it was possible, and the accompanying chart and tables give practically all the important clinical findings.

They all rapidly recovered from their fatigue and nervous exhaustion after their first long sleep, and felt so well that they could not be induced to remain in bed or in the hospital for further observation. Patients "A" and "D" left the hospital in good condition the day following their entrance, and patients "B" and "C" on the second day after entrance, also in good condition. Apparently all of them were little the

worse for their long period of dancing and loss of sleep.

Chart I shows the temperature, pulse and respiration rates during the time the patients were in the hospital.

Table A gives the general clinical data regarding the patients on admission to the hospital.

Table B gives the findings on Physical examination of the organs thought most likely to be affected by this prolonged exercise. It must be borne in mind that great difficulty was experienced in obtaining these and other findings owing to the exhausted and stuporous condition of the patients.

Tables C and D give the blood and urinary findings.

Particular attention is invited to the low blood sugar content and the diminished white blood cell count in all four patients. These findings rapidly improved after rest. Attention is also called to the low diastolic pressure in all four contestants.

A basal metabolic test could only be made in the cases of the two female patients. In the case of male patient "A" an attempt to take the basal metabolic rate failed owing to his condition, and to the fact that he could not breathe regularly. In female patient "C" the basal metabolism was +8, and in female patient "D" it was +9. On the whole, the two female contestants appeared to have withstood the strain better than the males.

The Chart and Tables contain all the important clinical findings. They are self-explanatory and call for little comment. Those who are interested in the effects of endurance contests of this type can draw their own conclusions from these data. To me it seems extraordinary that such a continuous physical and nervous strain should have apparently produced no injurious effects of importance. So far as could be observed, the prognostications of those who considered such endurance contests as particularly dangerous apparently were not fulfilled.

History shows that in all ages and among all peoples, even the savage races, dancing has been cultivated as a particular means of expressing significant emotions. The national dances of different peoples more or less express their racial characteristics.



Dancing also expresses religious emotionalism; witness the ecstatic dancing worship of Bacchus and Cybele among the Ancients, which amounted almost to frenzied madness. Later on we find the whirling dervishes and in the Fourteenth Century, in Central Europe, religious fervor found its expression in an epidemic of uncontrollable desire to dance, a veritable epidemic of chorea. The disorder known as St. Vitus dance dates from this time. In our own time we have had the Shakers and the Holy Rollers.

In the present day the cult of dancing among young individuals amounts almost to a mania, but it seems to lack the emotional, artistic and religious qualities that characterized similar outbreaks in the past. It seems to be a vent for the pent-up, excessive, nervous excitement due to the rapid rate at which we live.

The particular endurance dancing contest referred to in this report seems to have as sensible a background as standing on one leg for a long time, or sitting at the top of a flag pole.

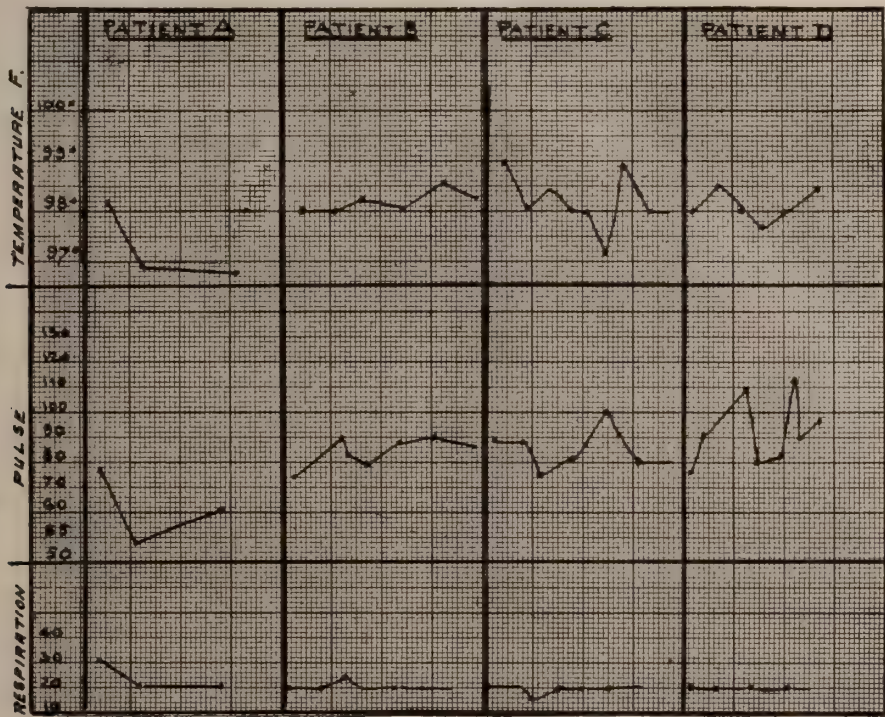


CHART 1  
Temperature, Pulse and Respirations of Four Individuals Observed

TABLE A  
CLINICAL PARTICULARS OF PATIENTS

Patient	Age and Sex	Weight lbs.	Color	Nation-ality	Married or Single	Condition on entering hospital	Temp.	Pulse	Resp.	Remarks
A	27 yrs. M.	156	White	German-American	S.	98° F.	76	28		Brought to hospital profoundly asleep and perspiring. Danced continuously for about 11 days and nights.
B	26 yrs. M.	130	White	American	S.	98° F.	74	20		Parents Italian. Entered hospital exhausted after 11 days and nights continuous dancing. Perspiring freely.
C	21 yrs. F.	119	White	American	S.	99° F.	88	20		Brought to hospital exhausted after 11 days and nights of continuous dancing.
D	22 yrs. F.	105	White	American	M.	98° F.	76	18		Brought to hospital exhausted after about 11 days and nights continuous dancing. Parents Finnish.

TABLE B  
PHYSICAL EXAMINATION FINDINGS

Patient	Condition of Heart	Breath and Respiration	Bones and Joints	Reflexes Patellar and elbow	Remarks
A	Some downward displacement and to the left; apex beat in 7th intercostal space very pronounced, no murmurs; sounds normal.	Breathing irregular; patient stuporous. Otherwise normal.	Some tenderness in ankle joints; no joint swelling.	reflexes normal.	A point of importance in patient A is the fact that he had almost a total thyroidectomy 8 years ago, which evidently had no effect on his power of endurance. Unfortunately basal metabolism could not be obtained upon admission due to lack of cooperation. The following day had his breakfast before another basal metabolism was ordered. Not obtained. Marathon covered on foot 2,500 miles. Runner started out in California and dropped out in Chicago on account of sprained ligament left ankle; two weeks later entered the marathon dance competition.
II	X-ray shows marked heart murmurs could not be detected.	Normal.	Joints stiff, especially hip; no swelling.	Nothing abnormal observed.	
C	X-ray shows slight enlargement; cardiac sounds normal.	Deep respirations slightly irregular; no rales.	Joints sore and tense; muscles of legs more or less rigid; foot and ankle joints swollen.	Neuromuscular reflexes do not show change; muscles somewhat rigid.	
D	Apparently normal in position and rhythm; somewhat rapid action.	Fairly normal.	Nothing abnormal found.	Elbow, 2+ Knees, 4+	Extremities strong.

TABLE C  
BLOOD FINDINGS

Particulars of Blood Examination on Entrance to Hospital.	Patient A	Patient B	Patient C	Patient D	Remarks
Red Blood Corpuscles.....	4,350,000	5,652,000	4,833,000	4,200,000	
White Blood Corpuscles.....	10,250	13,000	9,300	6,840	
Hemoglobin .....	75%	85%	80%	75%	
Small Lymphocytes .....	8%	12%	14%	30%	
Large Lymphocytes .....	1%	1%	....	8%	
Polymorphonuclears .....	86%	84%	86%	67%	
Eosinophils .....	5%	3%	....	....	
(*) Blood Sugar .....	68 mg.	64 mg.	65 mg.	63 mg.	Per 100 c.c. blood.
(*) Non-protein Nitrogen .....	21.3 mg.	28 mg.	26 mg.	24 mg.	Per 100 c.c. blood.
(*) Urea Nitrogen .....	11.5 mg.	13.6 mg.	14 mg.	12.4 mg.	Per 100 c.c. blood.
Blood pressure:					
(A) On Entrance—					
Systolic .....	116	114	106	98	Taken in bed.
Diastolic .....	52	52	62	52	Taken in bed.
(B) Following Day—					
Systolic .....	124	114	118	95	
Diastolic .....	56	72	78	55	

(\*) Normals: Blood Sugar, 80-120.  
Non-protein Nitrogen 25-40.  
Urea Nitrogen, 12-18.

TABLE D  
URINE FINDINGS

Urinary Findings Upon Entering Hospital.	Patient A	Patient B	Patient C	Patient D	Remarks
Specific Gravity .....	1020	1020	1016	1012	All specimens of
Color .....	Yellow	Yellow	Yellow	Straw	urine were voided and
Appearance .....	Cloudy	Cloudy	Cloudy	Cloudy	only one specimen
Albumen .....	Negative	Negative	Negative	Trace	was taken per catheter
Sugar .....	Negative	Negative	Negative	Negative	and examined.
Other findings .....	Few hyalin casts and a few pus and blood cells.	Some phosphate crystals and a few pus cells.	Some mucous shreds and a few pus cells.	Some mucous shreds.	



TABLE E. FOOD AND SLEEP OF CONTESTANTS

Patient	Food	Sleep	Remarks
A	For first two or three days he ate 7 or 8 sandwiches each day; 2 oranges and 2 apples each day; also grape fruit, oatmeal, eggs and chocolate bars. Fruit juices and milk to drink with little water. Abdominal pain occasionally after third day; cathartic taken; only 4 sandwiches per day taken, but other food much the same. Ate irregularly when he felt hungry and while he danced.	No sleep for first three days; on fourth day slept 6-8 minutes every hour; after that slept during the time allowed, which was 15 min. every hour. On 11th day he fell asleep on the floor and was disqualified.	
B	Mostly vegetables and liquid; chocolate bars, water and coffee; appetite poor. Food taken while dancing.	Rested for 15 min. every hour. Bowel movements good.	Feet and ankles swollen and strapped with adhesive plaster. Nervous and tired. Disqualified after 259 hours and 12 min. of dancing.
C	Ate every 2 or 3 hours during the rest interval; food taken consisted of bouillon, milk, coffee, fruits, eggs, vegetable soup, malted milk. Appetite poor. One bowel movement daily.	Slept 7 of the 15 minutes allowed each hour for rest; attended to feet, etc., during remainder of time. Had 2 hours of delirium but preserved clearness of mind.	This patient had trained for the contest by walking and dancing for the previous 15 days. She was in her menstrual period during the contest.
D	Soft-boiled eggs, toast, chocolate bars, fruit, ham and milk taken while dancing.	During the first 7 or 8 days of contest did not sleep at all. Spent part of rest time in changing clothes, washing, etc. Was massaged during first days. Got very drowsy towards end and she and partner both fell asleep while dancing and were disqualified. During the last 2 or 3 days had slept during the rest interval.	

TABLE F. BLOOD PRESSURE

Patient	"A" 8:00 a. m.—1:00 p. m.		"B" 7:00 a. m.—9:00 a. m.		"C" 3:20 a. m.—4:00 p. m.		"D" 8.45 a. m.—9:00 a. m.	
(A) On Entrance:								
Syst. ....	116	124	114	104	108	106	98	95
Dias. ....	52	76	62	68	64	62	52	55
	9:00 a. m.—1:00 p. m.		9:30 a. m.		9:00 a. m.		9:00 a. m.—4:00 p. m.	
(B) Following Day:								
Syst. ....	124	124	112	..	118	..	95	110
Dias. ....	56	56	72	..	78	..	55	72
			8:00 a. m.		8:00 a. m.			
(C) Third Day:								
Syst. ....	..	..	..	114	..	88	..	..
Dias. ....	..	..	..	72	..	40	..	..

## CHOREA: SOME CLINICAL OBSERVATIONS WITH A SUGGESTION FOR FURTHER STUDY\*

JESSE R. GERSTLEY, M.D.

Associate Attending Pediatrician, Northwestern University  
Medical School and Michael Reese Hospital

CHICAGO

Everyone is agreed that there is much evidence in favor of the infectious origin of chorea. The frequent association with heart involvement has been noted by many observers and is a powerful argument in favor of the bacterial etiology. Other observers have recorded the relation of chorea to rheumatism and to tonsillitis.

At times an actual organism has been isolated from the blood and recently E. C. Rosenow<sup>1</sup> has claimed that not only has he isolated the organism from the nasopharyngeal secretions but has been able to produce the disease experimentally in rabbits. He next prepared a serum against this organism and was good enough to allow me to use some of it on our patients in Chicago at the Sarah Morris Children's Hospital.

The results of this study have been published<sup>2</sup> and so I will allude to them only briefly. The serum was rather disappointing and we saw no great benefit from its use. Of course this in itself is argument neither pro nor con for the

1. Rosenow, E. C.: Amer. Dis. Child., 1923, 26, 223.

2. Gerstley, J. R., and Wilhelmi, L. J., Amer. Jour. Dis. Child., 1927, 33-602.

\*Read before the Section on Medicine of the Illinois State Medical Society, Moline, June 1, 1927.

streptococcus origin of the disease, but in this study we became interested in certain of the clinical manifestations. We learned as others before us that the disease is much more common in the Spring and it is much more frequent in girls. I may take this opportunity to call your attention to a few clinical signs usually overlooked. The first is the great importance of the tongue which even in very mild cases gives us a valuable clue. When it is protruded the patient opens his mouth in a rather awkward manner and more widely than is necessary, while the tongue itself shows various twitchings and rhythmic contractions. Another sign described by Adelbert Czerny has to do with respiration. Normally when a child is asked to take a deep breath the abdomen is protruded, due to the increase in abdominal pressure from the diaphragm. In chorea patients Czerny maintains the abdomen is drawn in. I have examined all chorea patients routinely for this sign and it seems present in quite a number, though it is not infallible. The reflexes in chorea are usually increased and if one takes the knee-jerk of an acute case repeatedly, the leg is thrown into a sort of temporary tetanus lasting for a number of seconds. In almost every one of our cases the chorea was worse on one side than the other, a true hemichorea in fact. An interesting clinical observation is the following: Ask the child to squeeze your hand with one of his. If he takes your hand, squeezing it with his right, watch the left hand. If the chorea is worse on the right side there will be little movement of the left hand. If the chorea is worse on the left side, when he squeezes your hand with his right, there will be noticeable associated movements in his left.

The tonsils were objects of our particular interest. We were surprised to learn that the removal of tonsils had absolutely no effect on the course or duration of the disease or in preventing recurrences. In this respect it is interesting to note that previous studies<sup>3</sup> do not absolutely confirm the strict relationship between rheumatism and chorea. Rheumatism does not seem to precede chorea nearly as frequently in the earlier years as it does between the ages of ten and fifteen. In other words, accidental co-

incidence must play a greater rôle than many are willing to concede. Sachs could find a satisfactory history of chorea coming on after rheumatism in only twenty of 184 cases and Osler found it in 15.8 per cent.

The inability to obtain pathological material in any large number of chorea cases makes the problem much more complicated. However, as encephalitis is so frequently followed by choreiform manifestations, and as encephalitis has a fairly well-known pathology, it is more than likely that the changes in chorea are of the same nature, namely, in the corpora striatum.

It will be seen that though there is much evidence in favor of the intimate association of chorea, rheumatism and tonsillitis, the problem is not entirely clear. There still remains the possibility that chorea is an independent unit occurring in a child with the syndrome tonsillitis, rheumatism and endocarditis.

During the study on the serum there were a number of observations which suggested that we should not be blind to other possibilities. For instance, the occurrence of the disease in the Spring might perhaps relate the condition to changes in calcium metabolism. The emotional reactions might be related to the thyroid. The occurrence of the disease largely in girls suggests a possible endocrine involvement.

Accordingly, during the last year the study has been continued with these points in mind. The patients were subjected to the same rigid physical examination as in the previous study. The search for foci of infection included enucleation of the tonsils and x-raying and correcting pathological conditions in teeth and sinuses. Bacteriologically these patients were as indefinite as those of our first report. In one out of five a streptococcus was isolated from the blood but did not grow on subculture. In this same patient cultures from the tonsils showed a hemolytic streptococcus, from an abscessed tooth staphylococcus aureus, and from the pus of a punctured antrum (courtesy of Dr. S. J. Pearlman) hemolytic streptococcus, nonhemolytic streptococcus and diphtheroid bacilli.

The blood calcium determinations averaged 10.5, i. e., normal. The phosphorus varied from 4.5 to 5.00, i. e., also normal. In this respect the electrical reactions were of interest. In prac-

3. Sachs, B., and Hausman, L.: Nervous and Mental Disorders of Childhood. Paul B. Hoeber, 1926, Publisher.



tically all the C. O. C. was reduced to the neighborhood of 5 milliamperes. This reduction obviously cannot be on the basis of diminished calcium.

Classified according to their metabolism the children divided themselves into two groups, those with a metabolism averaging between 2+ and 4+, and the others with a metabolism between 12+ and 14+. The higher rate of metabolism decreased to normal as the patients improved clinically. Here we have another problem. Is the thyroid itself related to chorea or did we have chorea in children with a tendency to hyperthyroidism?

As regards endocrine involvement, a few studies with parathyroid extract (Parathormone, Lilly) have not been encouraging. We have not tried extracts of the sex glands because of their present state of unreliability.

Incorporated in this work was a social service study of home conditions, and it is of this phase that I wish to speak particularly. Perhaps the best illustration of the importance of the social service worker is the following example: A little boy came to the hospital recently with this history: He had an attack some four years ago, being in the hospital for six weeks. The following year there was a mild recurrence. Last year he had another recurrence and was discharged from the hospital to a convalescent home. At this latter place he remained for four months showing no improvement and now is readmitted to the hospital. He is eleven years of age and there is nothing else of importance in the history except the fact that the tonsils were removed when he was four years of age, some years before his first attack of chorea.

The examination shows a well-nourished, bright and affable boy. He has all the symptoms of a typical acute chorea. His throat is clean and not erythematous. X-rays of his teeth and sinuses are negative. The heart is normal as regards size and sounds and this is confirmed by x-ray examination. He has been in our wards now for about four to five weeks and shows little improvement.

It is cases like this which seem to me suggestive that the relationship between tonsillitis, endocarditis and chorea is not as close as we have been taught. Here is a child who has had four attacks of acute chorea. He shows no car-

diac involvement whatsoever, nor has he a history of rheumatism. Is it possible that removal of the tonsils may have prevented heart and rheumatic occurrences and that chorea is an entirely separate entity?

In the meantime one of our social service workers, Miss Sadie Schultz, at our request made a careful comprehensive study of the patient's home conditions. Without going into detail several important bits of information were elicited. The first is a history of consanguinity, the mother having married her first cousin. Here we have a family background. The next is that the mother is of a morose temperament. She was a woman in fairly good circumstances and suffered financial reverses. She dominates her family and is thoroughly dissatisfied with our patient because he is not well and is more nervous than the other children. Apparently she picks on him a great deal. What seems of particular importance in this case is the relation which existed between our patient and his father. He seemed very much more devoted to his father than to his mother and the death of his father some weeks before this last attack had a profound influence upon him. Shortly after the death of his father a baby brother died. This combination of events with the associated sorrow in the home seemed to be factors exciting the last attack. Working upon this valuable clew I made it a point to speak to him a number of times about conditions in his home during those trying days. At the very mention of his father he would burst into tears and the choreiform movements become much more marked.

In order to make the mental side of the study more complete we asked one of our attending psychiatrists, Dr. Edwin R. Eisler, to study the child from the standpoint of mental hygiene. He corroborated our findings and furthermore elicited the information that the little boy was worrying about a quarrel he had with his father some time before, in which he had wished the father's death.

Having established these facts, I ordered a complete change in the child's routine. We got him out of bed in a wheel chair despite the fact that the chorea was by no means cured and I also started some school work. The idea of this was of course first to encourage him, and second, to get his mind occupied with more healthful

thoughts. With this change of regimen he showed decided improvement and became much quieter and happier for a few days. I was on the point of thinking we had made a great discovery when lo and behold he suddenly grew morose, sad, experienced a real loss of appetite which lasted a few days, and physically relapsed into another acute attack of chorea. For three days he refused to discuss his condition. Finally and with great emotion he told us that the anniversary of his father's death would come in a few days and he was heartbroken that he would be unable to be home to say the customary prayers. When we reassured him and told him that we would permit him to go home over those days he showed considerable improvement.

I realize that this is an exceptional case. It is possible that we may be dealing with a masked encephalitis. There is nothing in the findings which enables us to make such a diagnosis. The spinal fluid is absolutely normal in every way and the boy seems a typical chorea. However, the subject of encephalitis opens up too great possibilities for the present article.

The point of this paper is to bring up for discussion a field of thought somewhat neglected in the past. It has no bearing whatsoever upon the question whether chorea is or is not a streptococcus disease. It has, however, a bearing upon methods of treatment. Whether chorea is or is not an infection, clinicians have noted for a long time that emotion not only accompanies the disease but on the other hand intensifies the clinical signs. It seems sensible therefore to use all means in our power to allay the emotional factors. This is a line of study that is often overlooked and one that we are at present pursuing. Every case of chorea, we have at first a very careful physical examination to seek foci of infection; next, a careful social service survey to give us insight into the home conditions, and lastly if we feel there is any indication whatsoever, a psychiatric examination. The work is just starting. I do not know whether it will bring us much or not, but at any rate it does open possibilities for future studies.

In conclusion then:

1. We have found no reason to change the conclusions of our former work, namely, that chorea is not as closely related to tonsillitis,

rheumatism and endocarditis as has been generally accepted. There is clinical evidence to suggest that these three conditions may form a triad upon which chorea may develop as an independent entity.

2. The tonsils are not as closely related to chorea as has been taught. Tonsillectomy neither prevents the disease, has any effect upon its course, nor prevents recurrence. In those children, however, who have been submitted to tonsillectomy the chorea seems to be associated with fewer cardiac complications than in the non-tonsillectomized group.

3. Studies have failed to show any change in the calcium blood content in chorea nor in the phosphorus. Studies in metabolism are indefinite and offer little clue to etiology. There seems to be some increase in electrical excitability.

10. While we are awaiting further studies as to the true causative factor or confirmation of the suspected streptococcus we must not overlook influences which may aid or handicap the patient in his recovery. The mental side of the disease has not been studied sufficiently. In all cases this side of the picture must be taken into consideration. The patient must be put at mental as well as physical rest. To do this properly may necessitate a careful study of home conditions and even demand a change of home environment.

104 S. Michigan Avenue.

#### DISCUSSION

Dr. V. B. McClanahan, Galesburg: It appears to me that choreas, along with certain other conditions like hysterias, neurasthenias and a good many convulsive what-nots are merely the little surface waves on a nervous ocean.

Someone some time will lead us into the light about these things and we will be led to see that a great many of these are symptoms while a very few only are diseases. As Dr. Gerstley pointed out, it is practically impossible to get much pathological findings out of these cases due to the fact that a large majority of them are cured or get well.

It is a tribute that I pay to Dr. Gerstley when I say that although very little is known regarding the pathology, and so forth, of chorea, still it is the constant bringing up to our mind and the reassociation of different things which have to do with these conditions which some time will bring us into the true light and will lead us to know eventually what chorea is. At the present time we do not know.

I dare say the average practitioner, when he ob-



serves a case of chorea or is confronted with one in his office, goes through approximately the following regime. I mean this is the ordinary practitioner.

He first observes the nervous state of the patient. He next asks regarding the family history. He next probably guesses as to the severity of the case. He asks how long these things have been going on. He prescribes liquor potassium arsenitis or Fowler's solution, and hopes the case will get well, prescribing that in the same way they used to prescribe quinine for malaria, knowing that it helped but not knowing why.

There are three points I wish to make in this discussion; and the first one is that possibly some day we are going to have our ideas rearranged regarding a great many nervous symptoms themselves which at the present time we are more or less at sea about. The second point is that we practitioners do not, on observing a new case of chorea, study those cases sufficiently. Thirdly, our blind though not unwarranted faith in Fowler's solution as the treatment.

Dr. Charles L. Mix, Chicago: I cannot help but say a word or two in regard to chorea.

The major point in Dr. Gerstley's paper which I think we ought to take to heart is that chorea is a symptom-complex and not a disease. This symptom-complex is not confined to chorea. It is found, for instance, in Huntington's chorea and choreiform movements are also found in paralysis agitans.

The symptom-complex called chorea is due to a disturbance of the lenticular nucleus. Huntington's chorea, for a long time of unknown pathology, has been proved to be due to a disturbance of the lenticular nucleus. And the choreiform symptoms of encephalitis lethargica are also caused by pathology in the lenticular nucleus.

When lethargic encephalitis first appeared I thought it was probably a polioencephalitis anterior acuta, of the Strümpell type. The English regarded it as a form of paralysis agitans because the cases which they saw chiefly involved the lenticular nucleus; whereas those we saw involved chiefly the nuclei of the mid-brain. But in almost all of the early symptoms of encephalitis there is a choreic phase in which patients drop things, due to involvement of the lenticular nucleus. Indeed the symptom-complex of chorea is present in cases of ordinary encephalitis lethargica, and there is a distinct choreiform type which looks like chorea.

I believe Sydenham's chorea to be due to bacterial toxins irritating the lenticular nucleus by selective action. I believe the bacteria concerned will some time be found to be a spirillum or a spirochaeta. These bacteria are susceptible to arsenic. Arsenic influences the spirochaete of syphilis, for example, and the spirillum of ordinary Vincent's angina is influenced in general by arsenic. I believe the time will come when it will be found that there is either a spirochaeta or spirillum at the bottom of choreic infection, and that these bacteria will be found to produce a toxin which adversely affects the lenticular nucleus.

I do not believe that the endocarditis of chorea is

an integral part of chorea proper. It is true that a great majority, seventy per cent of chorea cases, have endocarditis.

Dr. Gerstley did not seem to bring out that in many instances the endocarditis follows the chorea. When I used to be in the out-patient department at Northwestern University Medical School we used to have chorea cases coming to us. When patients were getting well of the chorea they would return with a systolic murmur coming on subsequent to the disease.

Dr. Victor A. McClanahan, Aledo: I have a patient, a sixteen-year-old girl, with chorea. I remember that Holt or someone said that chorea seemed to have sometimes annual recurrences.

This girl presented a very severe case. It was in the spring that she had this severe attack first. I watched her two or three years and she has had two attacks at the same time of the year, each one lighter than the one before.

Dr. Meyer Solomon, Chicago: This paper by Dr. Gerstley forces home the fact that nervous and mental manifestations with emotional upset associated with organic disease are due to one or more of three main causes: they may result from the organic disease *per se*; they may be due to an emotional reaction on the part of the patient to his knowledge of the presence in him of organic disease; they may be an emotional reaction to mental conflicts that have nothing to do with his organic disorder.

In organic diseases, in addition to laboratory work, one should pay attention to the emotional, nervous and mental aspects.

Dr. Gerstley, Chicago (closing): Just a moment to answer a few of the points. The doctor who spoke about the emotional side of the disease as being the entire cause did not understand me fully.

There is much evidence in favor of an infectious etiology. Even though the Rosenow serum proved unsuccessful in our hands, even though our tooth, tonsil, pharynx and blood cultures have not shown much, still we cannot say that chorea is not an infection.

In this paper I tried to emphasize factors which influenced the disease and which we should not overlook while we are seeking the true cause. I did not mean to say the emotional factor was an etiological factor entirely.

Regarding the discussion about arsenic. There is some difference in the use of arsenic between children's men, internists and the neurologists. Children's men have for ten years given up arsenic. We find that placing children in bed and keeping them quiet does about as much good as any form of medication. We find it necessary to keep youngsters in bed for six to eight weeks.

Neurologists are inclined to use arsenic in larger doses of the various arsenical preparations. They claim good results.

The only drugs we use are those that quiet the child, as bromides or luminal. I have seen a number of children develop real intoxications on luminal, so I do not use it much.

## SOME PROBLEMS OF THE ROENTGENOLOGIST IN A SMALL COMMUNITY\*

H. A. ELKINS, B.S., M.D.

MT. CARMEL, ILLINOIS

It is indeed a privilege to appear on the program of the first official meeting of the radiological section of the Illinois State Medical Society.

As a representative from one of the smallest counties of the state, namely Wabash, as often sung "On the Banks of the Wabash Far Away," my small city was founded by three Methodist preachers, who gave it the Biblical name of Mt. Carmel. I must admit it is necessary for the roentgenologist to be closely associated with the spiritual advisor in order not to lose faith in humanity while baffling with the daily problems which occur in general routine of duty.

Thus the subject "Some Problems of the Roentgenologist in a Small Community." (Please note the use of the word roentgenologist in place of the commonly used misleading term radiologist, as the public associates the latter with radios and quite naturally classify us as radio operators.) I fully appreciate that the metropolitan roentgenologist has problems many and varied, but I shall not endeavor to explain his difficulties as he is in a different sphere.

The first problem to confront a physician in operating an x-ray laboratory is that of obtaining necessary equipment which should be of standard make. The second is the installing of that equipment in the arrangement most convenient for the type of work you are doing or expect to do. The manufacturer can be of great assistance to you in planning your installation; however, there are individual requirements necessary for you to decide.

After installation you think your troubles are over, but to your surprise, new ones begin, patients are few and collections bad. As soon as it is known you are devoting your time to x-ray work, your friends will come around and in a quiet whispered voice say, "Doctor, aren't you afraid to fool with that thing? I just read where someone had died a martyr to x-ray, and by the way, Dr. Brown burnt a woman."

Thus the roentgenologist should refer to such burns, as x-ray reaction or dermatitis, as the public doesn't like to get burnt. As a roentgen-

ologist depends on work referred to him by physicians of the locality it is necessary to educate them as to the nature of the work for x-ray; this need for education, however, does not reflect on the general practitioner's ability, since he began his medical career in the pre-x-ray days and has not been able to acquire such knowledge until recent years. I find the "Radiological Review" edited by Dr. Swanberg of Quincy an excellent publication for the general practitioner. Dr. Swanberg deserves much credit for the initiative of placing this journal before the profession.

Likewise the laity is realizing the value of x-ray diagnosis and therapy, and patients will come of their own accord for G. I., etc.

In such cases we inquire as to the patient's physician and inform the patient that it is necessary for us to consult him and obtain his permission before we do the x-ray work, and that our findings will be reported to the attending physician.

Quite another problem confronts us regarding the work of industrial patients who come maliciously for x-ray of injury not wanting the attending physician to know of the x-ray. We adhere to the strict rule not to x-ray any injury without the permission of the patient's physician.

Neither do we give films to the patients. In some cases patients maintain they have paid for the films and request them. We meet this situation by explaining to the patient that he is paying for the diagnosis and not for the films. If the patient further insists a copy of the film can be ordered.

We think this ruling is a timely one, and a good one for the following reasons:

1. It prevents the loss of films.
2. It makes possible the location of films whenever needed
  - (a) For comparative study with previous examination.
  - (b) In case of legal action.
  - (c) In preventing misinterpretation of films by unqualified physicians and cultists.
  - (d) For assistance in establishing a radiological library.

Some think an x-ray is no more than a picture-taking process, and that an irregular practitioner who has an installation is just as com-

\*Read before the Section on Radiology, Illinois State Medical Society, Moline, Illinois, June 1, 1927.



petent to do x-ray work as you; they do not realize that the interpretation is important, all they see is the photographic angle.

In therapy you find patients skeptical as to the results of treatment and his first question will be "Do you guarantee a cure?" To such a question we reply, "Does your physician guarantee to cure your pneumonia? We expect your condition to respond to treatment as do the majority of those indicated for x-ray. As we are anxious for good results we would not treat your case if we did not think it would respond to treatment."

So it is from day to day as we meet the various obstacles which in turn make our work a pleasure by the apparently miraculous results obtained in innumerable cases seeming doomed to a life of suffering and destruction.

#### DISCUSSION

Dr. E. S. Blaine, Chicago: The Chair wishes to remark that he sees little difference in the problems of the roentgenologist who practices in the small community from those encountered by the roentgenologist who practices in the large city. I see a great deal of similarity in the situations with which we have to contend; it is largely a matter of volume of work and number of individuals (physicians and patients) that one has to try to satisfy with service.

Dr. Alden Alguire, Belvidere: I commenced about twenty-nine years ago and have gone through all Dr. Elkins has brought up. I came to this section a little bit late. Was very interested in the scientific paper I heard, as well as the paper by Dr. Elkins. I do not know that his town is any smaller than mine. For years I had the only x-ray apparatus in the community until the Chiropractors came into town. We have cleaned the Chiropractors out. One of them got to bootlegging in connection with the x-ray, a poor combination. Your President, the other day when I was up in this section, made the most pertinent remark I have heard in a long while. He said: "No man had the right to touch an x-ray machine and interpret a picture except a trained physician." In our town we had a man who came in and took the town by storm, stating that x-ray work was of no value. There was an instance of where it cost an insurance company hundreds of dollars to have a fractured femur properly reduced after the fellow who knew all about everything had attempted reduction. There was no union. Since that time he has learned that it is necessary to have radiograms of fractures.

The value of x-ray is becoming quite well known to the people and particularly in a supposed fracture or bone trouble of any kind. As yet they are not educated sufficiently to understand that we do not see all of the tissues and pathological conditions as easily as we do bones, and they ask for an x-ray for all sorts of things. The comical side of the layman's notion is that he insists upon seeing the radiogram

and will very often tell you all about it. We still have very many doctors whose conception of x-ray work is on a par with that of the layman. Some of the doctors are commencing to see that roentgenology in all its branches is a very difficult and highly technical study and are leaving at least the interpretation to one who has had a greater experience in that field.

We have been told a great many times, "Do not use radium if there is pus in the abdominal cavity." I treated a degenerating fibrosis of the uterus with radium with the usual good success. Within one month her physician insisted upon removal of the uterus. I was present at the operation and saw the surgeon enter a large sack of sterile pus in the abdominal cavity. This operation was within six weeks after the radium treatment. Unfortunately the patient died of hemorrhage on the table. I cannot help but think we are as a whole too conservative as to the amount of either x-ray or radium used in many of our cases, especially cancer.

There are many things, and many of them comical, that Dr. Elkins has gone through and will continue to experience as have all of us who have been for a number of years interested in roentgenology either as a specialty or as having given special attention to it because of its inestimable value as an aid to medicine and surgery in general. He has a glorious work ahead of him, and in time when both the doctors and the layman become better acquainted with his work he will reap his reward.

Dr. H. A. Elkins, Mt. Carmel: I thank the doctor very much for the discussion. He appreciates my position. I think, as roentgenologists, we must bring x-ray before the medical profession all the time. I happen to be secretary of the county society and am rather handicapped. I can not always get programs on the x-ray. I think in all county societies where it is possible and where the roentgenologist is a member of that society he should keep some x-ray work before the society all the time.

#### FACTS AND FANCIES REGARDING THE USE OF X-RAYS IN PROGRESSIVE MEDICINE\*

EDW. S. BLAINE, M.D.

Director X-Ray Departments of the National Pathological Laboratory, the Wesley Memorial Hospital, the Garfield Park Hospital, the Ingalls Memorial Hospital, Associate Professor of Roentgenology Northwestern University Medical School, etc.

CHICAGO

It is common knowledge that x-rays are useful in the modern practice of medicine, but misconceptions concerning its use and value are not infrequent. It is generally known that x-rays are invisible but it is not so well known that they are not directly demonstrable by any of the five human senses. It is a fact that these interesting and very useful rays are not recognized by

\*Given for the Educational Committee over Station WGN, January 24, 1928.

seeing, hearing, feeling, smelling or tasting. How then do we know that x-rays exist? By visible evidence of the effects they produce. There are four different manifestations; first, the physical effect that they have on certain substances which glow or fluoresce into visible light; second, the physical effect on photographic emulsion, celluloid film or glass plate, but which is not evident until it is chemically treated in a photographic dark room; third, by the biologic effect they produce on human tissues; fourth, by the changes they produce on gasses or the air through which they pass.

Of these four modes the first is "fluoroscopic" which is in daily use and practical application in medicine by means of a fluoroscope. This term refers to the fluorescing surface or screen upon which certain shadows appear when any part of the human body is interposed between it and an x-ray tube in action. These shadows are so weak they cannot be seen under ordinary daylight conditions but require a totally darkened room for visualization and then only after full and complete dilation of the pupils of the observer's eyes. It is impossible for one to pass directly from a sunlit room into a totally darkened fluoroscopic room and immediately recognize any shadows on the screen. It requires from five to fifteen minutes in the darkened room before the eyes are in proper condition to proceed with such an x-ray examination. X-ray fluoroscopy is very useful in the study of those parts of the body where motion plays a part, such as the lungs, the heart, the stomach and the intestines. Occasionally it is useful in the reduction of fractures and in the location of foreign objects such as needles, pins, bullets, etc. It is a fact that there is a certain amount of danger in the use of the x-ray fluoroscope, more to the x-ray physician examiner than to the patient; therefore, the wise physician reduces the time of fluoroscopic studies to an absolute minimum. The ever present dangers of the x-rays themselves as well as of the high tension electricity necessary in producing them, is one of several reasons why one in need of x-ray service should avoid the layman x-ray technician and seek a skilled medical x-ray expert. Unfortunately, the laws governing the protection of the health of the people of the State of Illinois do not protect the unsuspecting public from these dangers; anyone with an x-ray equipment is per-

mitted to use it on human beings whether qualified by training or not. The interpretation of x-ray fluoroscopic shadows is a special medical service which requires the skill of a qualified physician; the layman has not had the training necessary to enable him or her to give fullest value to the x-ray shadows.

The second form to x-ray work which I have mentioned is "graphic." This gives us shadows of human structures such as the bones, joints, muscles and organs, on the emulsion of silver salts spread on a celluloid film; this is similar to the ordinary photographic negative. These x-ray film shadows, unlike the momentary and fleeting shadows of the x-ray fluoroscope, are permanent records which can be studied at length, compared with other x-ray films of the same or other cases, interpreted without haste and then can be filed away for future reference, recheck and restudy, if necessary. Of these two forms of x-ray work, that is the fluoroscopic and x-ray film record, it is obvious that the film method is the more costly as it requires considerable outlay in special materials and in skilled labor, but the increased cost is overwhelmingly offset by the greater certainty of the diagnostic conclusions that can be drawn from the shadows as well as in the permanency of the tangible record obtained. The competent x-ray physician who has the best interest of his patient in mind will render a maximum service by x-ray interpretations based on more x-ray films of larger size than is the common practice in many places and particularly in the commercial x-ray laboratories. This is especially true in x-ray examinations of the stomach and the intestines, usually called a gastrointestinal x-ray study, where too often the patient is subjected to a prefatory fluoroscopic observation of practically no value medically, (most often made by a non-medical technician), supplemented by one, sometimes two, x-ray film exposures. Obviously such incomplete and incompetent work can be made for a much lower fee than can a reputable, experienced and conscientious x-ray physician, who does not charge for x-ray pictures at so much per view, but whose fee is made for an expert opinion which is based on x-ray shadows. Patients do not buy pictures as is done in photographic studios, a mistaken idea that many have. The number of x-ray film exposures made by different x-ray physicians varies, but the most



careful of these use from 15 to 25 films in a complete study of the gastro-intestinal tract and such examinations cover a period of at least three days and sometimes more. It is a mistake to think that any layman possessed of an x-ray machine is an "x-ray expert," although this is not generally known. Neither is the quality of an x-ray film a safe criterion of the ability of the x-ray physician. The x-ray technician is frequently a trained nurse who has had considerable experience in the handling of the sick and ailing. Through their contact with the x-ray physician under whom they work, they acquire more or less knowledge regarding the medical meanings of x-ray shadows but the ethical x-ray technician steadfastly refuses to give out opinions, interpretations or x-ray diagnoses, realizing full well that only the physician especially trained and skilled in the x-ray art in medicine is competent to give opinions or make such interpretations. The layman x-ray worker is not qualified or competent to make x-ray reports and therefore, should not be expected or asked to do so. Notwithstanding the fact that making such x-ray diagnoses is a part of the practice of medicine, and therefore the rendering of x-ray interpretations or reports by laymen is unlawful; nevertheless such practice is permitted, abetted and tolerated in certain quarters, even some hospitals of Chicago being guilty of this irregularity.

The third form of the practical use of x-rays is "therapeutic" or the treatment of diseased conditions by applying the x-rays. In the early years of the development of the x-rays it was noted that under certain conditions of x-ray exposure, changes occurred in the skin and underlying tissues which oftentimes were entirely unlooked for and frequently were wholly undesired, so much so that the x-ray injuries and damages done, brought the method into some disrepute. However, there frequently resulted a more or less complete disappearance of certain skin diseases and the cure of some malignant tumors. Further search revealed the fact that certain diseases, the result of derangements of the structure and the function of certain organs and glands, were benefited by x-ray treatments. Carefully developed x-ray exposure formulae today enable us to treat many conditions which do not respond to other known therapeutic agents. Thousands of patients receive x-ray

treatments daily for the relief of such conditions as eczema, itching skin conditions, certain warty growths, some chronic skin ulcers and also in superficial malignancies, skin cancers and the like. In breast cancer it is often found to produce a regression of the growth; at other times it arrests the progress of the tumor, bringing it to a standstill for a greater or lesser period of time. X-ray treatment of deep seated cancers with highly penetrating x-rays is not sufficiently successful as yet to permit us to view the results with any material degree of satisfaction, but at least we have demonstrated the fact that it is of some benefit in making the victim of this dread disease more comfortable and in reducing the discomfort of those in contact with such patients. Occasionally the results warrant us in stating that a cure was obtained. This branch of x-ray work requires the greatest care and skill on the part of the x-ray physician. Unlike the state laws governing x-ray work for diagnosis, the giving of x-ray treatments by lay x-ray workers is prohibited, although here too this unlawful practice is tolerated in some quarters by otherwise ethical physicians. The use of x-rays in massive quantities, using x-ray equipments which produce rays of at least 200,000 volts potential is necessary in the attack on deep seated cancer. To treat such cases with the ordinary x-ray machine of less than 140,000 volts, is similar to attempting to put out a fire of a large building with a stream of water from a garden hose. Therefore, x-ray treatments to be of value to the patient with deep seated cancer must be given with voltages of 200,000 and over. In certain cancerous growths, x-rays are used in conjunction with radium with considerable benefit.

The fourth form of x-ray use which I mentioned is of academic and technical interest only and will be of little interest to a radio audience and therefore will be passed over.

To summarize I leave these facts with those listening in.

X-rays applied to the human body are potent for much good in diagnosis and treatment.

An x-ray examination is not attended by any such happenings as electrical shocks to the patients, the appearance of lightning, of flames, jolts or other fancied disagreeable events.

X-ray dangers lie in the possible damages resulting from the incompetency or inexperience

of non-medical x-ray workers in commercial x-ray laboratories.

X-rays used in diagnosis and treatment should be applied only by physicians skilled in this special medical work.

The commercial x-ray laboratory owned and operated by laymen should be avoided by physicians and patients, as not in the best interest of the sick seeking medical help and relief.

Periodic health examinations by the family physician, assisted by proper x-ray studies offer the best safeguard against disease.

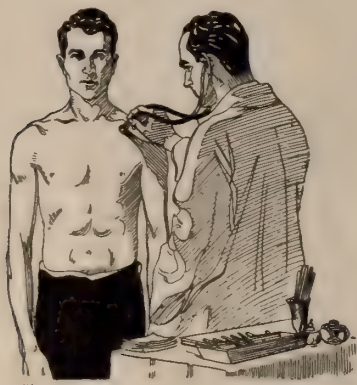
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### THE EARLIEST SYNDROMES OF PULMONARY TUBERCULOSIS. THE PRO-DROMAL PRECLINICAL, CRYPTIC OR MASKED SYMPTOMS. THE YESTERYEARS SIGNS AND SYMPTOMS OF TUBERCULOSIS\*

JOHN RITTER, M.D.

Assistant Professor of Medicine, Rush Medical College, Medical Department of the University of Chicago, Clinical Instructor and Lecturer on Tuberculosis

CHICAGO



The early diagnosis of pulmonary tuberculosis or better early diagnosis of clinical tuberculosis because there are no definite signs or symptoms demonstrable in clinical tuberculosis, this only when body changes have been brought about by the presence of the tubercle bacillus in the human body.

Clinical tuberculosis pictures itself throughout the entire course of the disease as the antagonisms, the warfare between the active work-

ing tubercle bacilli in the organism on the one hand, and the resistance offering body cells on the other. The entrance or implantation of the tubercle bacillus into the human body is not sufficient to bring about tuberculosis. Other necessary factors to produce the disease must come into play;—hence the number of entering bacilli, their virulence and the favorable tissue soil offered by the human body must all be considered.

A normal organism may not be able to resist the entrance of disease producing bacteria but it may inhibit the implantation of micro-organisms by offering to these entering germs an unfertile soil, "a locus majoris resistencia."

When tubercle bacilli enter the human body, assuming the respiratory route, they may find ready lodgment, begin to grow and multiply and by elaborating a poison may produce noticeable symptoms or they may be expelled from the body without implantation or if implanted may become encapsulated, undergo calcification, may be destroyed or may become harmless foreign bodies. In a great many instances, however, the implanted germs become what is known as active, do not remain latent or passive and this then is followed by what is known as pulmonary tuberculosis. When tubercle bacilli first enter the human body, the organism may not offer any resistance, is passive to the deposition and we have no evidence then that tubercle bacilli are harbored within the body. After a lapse of time, perhaps many days or months, and after a period of bacillary quiescence, the implanted bacilli begin to grow and multiply and due to the elaborated toxins begin to arouse the body cells and these cells now offer an active resistance and from this time hence the antagonism between the invading tubercle bacilli and the fixed body cells is established.

We must now closely observe the truism that implantation is not infection and that infection is not disease. With the first evidence or sign of resistance offered by the body cells against the invaders we say that the individual is infected and not before; hence, infection only begins at the moment when the body has become cognizant of the presence of bacilli in the tissues and has protested and the bacilli on the other hand have resisted this intrusion of the body's defense powers. Up to this time the body was passive, took no notice of the bacilli harbored within its

\*Paper presented to the Chicago Tuberculosis Institute as a contribution to the nationwide campaign on the early diagnosis of Tuberculosis, in March, 1928, as sponsored by the National Tuberculosis Association.



confines but now the body cells have developed an active campaign against the invaders and this now designates the body as being infected. However, it is as yet not diseased; tuberculous disease begins only when definite body changes, when tissue changes, have become established in the various organs of the body; hence, by implantation we understand the lodging of tubercle bacilli in the human body where they may remain quiescent for a longer or shorter period gradually becoming active, that is, beginning to grow and multiply. This now arouses the defense agencies or powers of the body and with this arousing of the body's defense powers we say that the body is now infected and after a shorter or longer time the tissues begin to show the effects of this antagonism and with interfered functioning, body disturbances and slight necrosis the individual is now classified as being tuberculously diseased as well.

Tuberculosis from the onset, that is, after implantation, has but two phases, the preclinical and the clinical. At the preclinical, that is after implantation, latency and perhaps up to the beginning of infection there are no signs or symptoms which make us suspect the presence of tubercle bacilli in the human organism. With the activating of the disease, the passing of its latency, that is with infection at first very obscure and indefinite, signs will become noticeable and these signs can only be demonstrated after repeated physical and biological tests and this usually can only be elicited by the physician who has had many years of efficient training in tuberculosis. A little later on when the body's defense powers have been aroused, the signs become more definite, the making of the correct diagnosis becomes somewhat easier and the physician finds no difficulty in formulating his conclusions as to the nature of the body disturbance. This is usually in what is then known as the first stage and as the disease progresses with the extension of the process all the signs and the symptoms become so plain and pronounced that usually the layman can make the diagnosis. With the passing of the latent infection into the active form of the disease the problem of an early diagnosis becomes a most important factor and here, at the onset, not a single symptom is sufficient for an early diagnosis of the disease and all subjective and objective signs must be carefully considered.

In the earlier cases of clinical tuberculosis the

diagnosis is most infrequently made and here we find very often that the history of the case, the physical examination and the roentgenological picture are all insufficient to clinch the diagnosis. In such instances it depends a great deal upon the training in the examination of the chest, upon the interpretation of the various physical signs and upon the good and uninfluenced judgment of the examining physician. We must always bear in mind that so long as tissue changes have not yet taken place, that no evidence of infection can be demonstrated in the human body no matter when the implantation took place. When the clinical stage has arrived, definite at first, perhaps very meagre, signs and symptoms are noticeable and the very early anticipation of these various signs constitutes an early diagnosis. In the preclinical stage usually nothing is observed by physical examination. However, this all begins to change when the body has resisted the invasion and the individual becomes infected and generally the two noticeable signs are primarily the lability of the pulse and the difference of the temperature curve from the normal. This lability of the pulse, especially if continuous and rapid, and not accompanied by much fever and by very little pulmonary involvement must be considered the very earliest sign. As this lability of the pulse usually accompanies the tuberculous process throughout, it is also observed in healed lesions, in latent and in inactive processes and after scar tissue formation. The toxins, elaborated by the growth and multiplication of the tubercle bacilli in the organism, circulating in the blood stream begin to irritate the harmonious action of the heart. The heart is no longer rhythmical, is irritated; this one of the earliest signs pointing to tuberculous disease and with the toxins in the circulating fluid the temperature begins to show signs of disturbance, and a slightly higher temperature rate is at first noticeable in the late afternoon hours. These two signs, lability of the pulse, arrhythmia and a slight rise in temperature are the first noticeable signs of infection and beginning tuberculous disease.

These two signs now remain throughout the whole course of the disease from the very beginning and up to *ad exitus*, increasing or decreasing with each exacerbation or remission until late in the course of the disease when the body must take cognizance of the fact that it no longer can

cope with the invaders and its toxins and the body as a whole now passively submits to the inevitable and the heart being no longer irritated or excited, the pulse drops to normal and below, the temperature drops proportionately and for weeks may remain at that level before the close of the scene.

Incidentally it should be mentioned here that, in the suspected tuberculous, rectal temperature readings are the only dependable notations. Axillary and mouth readings should not be resorted to because the variations may be so slight as to enter a miss registration.

Another frequently observed sign following in the train of intoxication with the toxins of bacillary growth, is fatigue. Tired without any assignable cause, tired on going to bed, tired on arising, tired on the least exertion; an early sign long before physical signs are demonstrable. Other signs all pointing to intoxication and which should arouse our suspicion are loss of strength and endurance, loss of appetite, disturbed sleep, nervousness, neurasthenia, menstrual disturbance. All these and many more are the result of the toxin or poison given off by the bacilli during their growth in the human organism and the circulating of this poison in the blood stream. Another sign usually of the same origin and very often overlooked or treated very lightly is orthostatic or cyclical albuminuria; albumin in the urine when the body is exercising and not when the body is at rest. The urine passed on rising is usually negative for albumin but after free exercise albumin can be found in the urine. This is also of toxic origin and when found in the young before or about at the age of puberty, deserves the closest consideration, and often cases of joint rheumatism which are frequently observed in the youth, particularly at the time of beginning puberty, may be of tuberculous origin, a symptom of tuberculous intoxication and here an intradermal injection of tuberculin may be very satisfactorily used to clinch the diagnosis.

More or less moisture is produced as the clinical tuberculous process extends and in the area where the bacilli are deposited and are growing, this usually about the air cells of the lungs at the parenchyma. This is known as an exudate and flowing into the smaller bronchial tubes and gradually into larger ones, an irritating cough is produced. This slight cough is usually always

present when the disease shows a tendency to spread. In the very early stage when a cough is not always present, perhaps only an occasional hack, it is advisable to examine the apices of the lungs for more or less dry crackling sounds, usually inspiratory. These crepitating or crackling sounds, if persistent and not evanescent, are the most valuable signs of early disease; they are pathognomonic of pulmonary tuberculosis. We must here bear in mind that crackling sounds or rales with a negative sputum picture may point to closed cases of pulmonary tuberculosis. Sometimes crackling sounds in slight cough can not always be brought about; in such instances resorting to a little artifice will bring results. This is known as auscultating the cough. The patient is asked to take a deep breath and then fully breathe out but just before the next in-breathing to cough thus with the next inspiratory phase crackling sounds may be elicited. It is not auscultating the cough, as it is termed, but the inspiratory phase following the cough. Attention should be called to a pulmonary disturbance, perhaps at first mildly and very little noticed, this is the condition of the lungs known as "bronchial catarrh." There may not be a single symptom only a slight bronchitis. This should receive our most careful attention and periodic examinations, tuberculin test, roentgenologic picture and a close history taking are here indicated.

Pleurisy in a young individual, even in middle age, should be looked upon as suspicious. It may be an early sign of pulmonary tuberculosis, notwithstanding the fact that tubercle bacilli are not demonstrable in the withdrawn pleural fluid and although nothing is demonstrable in the lungs. Sooner or later nearly all such cases of idiopathic pleurisy become tuberculosis and months or years may pass and from this primary pleurisy active pulmonary tuberculosis inevitably will follow. Hence all pleurisies must be treated from the onset as tuberculosis, increasing the body resistance to avoid activations of the process. Many records show that pulmonary tuberculosis has followed pleurisy in from ten to twenty years.

Hemorrhage is usually a late symptom but it may be the earliest, the patient being in apparently good health when suddenly, like out of a clear sky, bleeding from the lungs is present. In most instances, it is evidence of a healed lesion with a cavity, perhaps of many years. If it is the initial symptom a careful chest exami-



nation after the hemorrhage has subsided should be made and a good roentgenologic picture taken to confirm our suspicion and the patient must remain under constant observation.

Many of the symptoms enumerated above may manifest themselves at a period in the tuberculously infected individual when little or no anatomical changes have yet taken place, and by physical methods we are not yet in a position to demonstrate organic lesions; the clinical picture is still obscure or may be quite negative. However, when clinical tuberculosis is once definitely established, then both the subjective and the objective symptoms are present. Subjective—those observed and noticed by the patient, the objective—those signs which are observed by the physician while examining the chest of the patient.

The great problem of an early diagnosis in pulmonary tuberculosis is at the time of the passing of a latent infection into the active or clinical form of the disease and to notice if the disease is progressing slowly or more or less rapidly. This is so important in the treatment and in the prognosis. If we observe more closely the functional disturbance of individuals coming under the physicians' care many more cases may be diagnosed as tuberculosis in which the infection and the subsequent disease had never entered the patient's mind and was never suspected.

5 South St. Louis Avenue.

## EPILEPSY

### A PRELIMINARY REPORT OF A NEW IDEA CONCERNING THE CAUSE AND TREATMENT

R. A. ASHBAUGH, M.D.

Kankakee State Hospital

KANKAKEE, ILLINOIS

Epilepsy is one of the oldest diseases known in history. It dates back to the time of Julius Caesar, which was about fifty years before Christ. Julius Caesar himself was a victim of the disease.

In Shakespeare's "Julius Caesar" his affection is called "falling sickness." They speak of his giving a loud cry, of falling to the ground, of frothing at the mouth. Then they say, "When he came to himself," which evidently means a loss of consciousness. These same symptoms are typical of our present day epilepsy.

Numerous papers have been written on this subject and many theories advanced as to the

probable cause of the epileptic convulsion, but as yet the actual cause of the seizure is unknown.

In April, 1926, while working as junior physician at the Cook County Infirmary at Oak Forest, I became interested in the large number of cases of epilepsy in that institution.

I secured permission of Dr. J. J. Minke, head physician, to do some special work on these cases, and with the aid of Miss J. Agnes Mulroy, pathologist at the institution, I examined a selected number of cases.

The laboratory examinations made on each case were blood Wassermanns, complete blood counts, complete urinalysis, feces examination for intestinal parasites and duodenal and biliary tract drainages. A physical examination was made on each case, and the personal history was taken.

The laboratory findings were: The urine in most cases was negative. The blood counts were normal, with the exception of a slight leucocytosis, ranging from ten to fourteen thousand, found in a few cases. The Wassermanns were negative, with the exception of one case.

About twenty-five cases were examined for intestinal parasites, and without exception, every case showed *entameba histolytica*.

About one-half of the cases examined showed a combination of parasites. In one case alone, six varieties of intestinal parasites were found; namely, *entameba histolytica*, *entameba nana*, *entameba coli*, *trichomonas*, *cercomonas* and the cysts of *gardia* or *lamblia intestinalis*, although no active *lamblia* were found. Other cases showed two and three varieties of the aforementioned parasites. Only one case of active *lamblia* was found in the twenty-five cases examined.

No test meals were given, but in draining the duodenum and biliary tract, the fasting stomach contents were aspirated and examined for hydrochloric acid. Most of the cases showed a hyperacidity. Two cases showed no HCL. A few amebae were found in the alkaline stomach contents, but none were found when HCL was present.

In the duodenal contents and in the gall-bladder and liver bile, numerous amebae were found and they were especially numerous in the abundant mucus that was found in all these cases. The gallbladder bile obtained was normal in amount, but very dark brown in color, almost black, in some cases.

The entameba was the only parasite found in the upper intestinal tract with the exception of one case. This was the case in which the lamblia were positive in the stool examination. This same parasite was found in great number in the upper intestinal tract, and especially in the gall-bladder bile. The lamblia were very active and very hardy; that is, they were active an unusual length of time after leaving the body.

The personal history in these cases ranged from a history of epileptic seizures, beginning in infancy and continuing all through life, two cases in which the initial convulsion appeared in adult life and even in middle life. Without exception, they all complained of intestinal disturbances; that is, of constipation or diarrhea, of certain kind of food, and of overeating increasing their spells.

The physical findings did not show anything special. Almost all the cases showed tenderness over the abdomen. The mentality of the patients varied, depending a great deal on the duration of the disease. Most of these cases showed a mental deterioration.

The only uniform findings were the convulsions, the history of intestinal disturbances, and the finding of entameba in one hundred per cent. of the cases.

Working on the theory that the epileptic seizures were probably caused by auto-intoxication from a poison or poisons originating in the intestinal tract, I decided to begin treatment by trying to rid the intestinal tract of the parasite.

I followed the method used very successfully in the Veterans' Bureau Hospital; that is, passing duodenal tube or catheter and injecting Neo-salvarsan, dissolved in distilled water, directly into the duodenum through this tube. I also gave intravenous injections of Neo-salvarsan.

After two or three treatments, the parasites disappeared entirely from the stool but were still very numerous in the upper intestinal tract; so we discarded the stool examinations, but continued the duodenal drainages, as a means of watching the progress of the treatment.

In studying the ameba found in the upper intestinal tract we noticed that the parasite was inactive and that after a certain time outside the body, the cell ruptured or seemingly exploded and gave out one or two small nuclei or cysts; again there were a number of minute bodies that

scattered as the cell exploded, floated along and gradually disappeared into the stream.

I now began daily inunctions of mercury, letting the patient rub in 30 to 40 grains of blue ointment every night, watching his teeth very carefully so that no salivation would occur. I also gave 5 or 6 intravenous and intraduodenal injections of Neo-salvarsan. I discontinued this and gave arsenic trioxide by mouth in doses starting with grain one-thirtieth increasing until grain one-third was given in 10 days. I repeated this five times with no apparent reaction.

I gave mercurochrome by mouth in two grain doses for one month, but the patient showed beginning symptoms of salivation so I discontinued the treatment. I also gave mercurochrome intravenously to a few of the cases for a short time, but decided I was getting as good or better results with mercury inunctions, so I discontinued the mercurochrome but kept up the inunctions for several months. After the mercury inunctions were well under way we noticed that the ameba in the upper intestinal tract had become active, putting out pseudopods and changing shape also making some progress across the microscopic field. They were much more friable, however, breaking up and disappearing more quickly than heretofore.

The parasites gradually grew less in number and the mucus decreased. After five months of daily inunctions of mercury, the parasite had almost disappeared from the upper intestinal tract, only an occasional one being found in the gall-bladder and liver bile and in the small amount of mucus that was left.

The patients, from the beginning of this treatment, showed improvement in general appearance, were more mentally alert, said they felt better, etc. The epileptic seizures were of shorter duration and the length of time between seizures had increased. Although the improvement was general, the convulsions had not entirely ceased in any one patient.

Dr. Helen B. Flynn, School Physician with the Chicago Health Department, volunteered to inoculate a guinea pig with the blood of an epileptic patient taken during a seizure. After a period of two weeks the pig was brought to the laboratory. It had lost weight and was very sluggish in action. Dr. Flynn reported two inoculations given. The pig revived somewhat and gained in weight after being returned to us, so



two more inoculations were given at three-day intervals. The first one was given subcutaneously in the abdomen. The second was given in the plural cavity. At the end of one week the pig died. A post showed a lung abscess, also fluid in the abdominal and plural cavities. All other findings were negative. Smears made from the abscess and the abdominal fluid showed a large organism resembling staphylococci. We attached very little importance to this at the time.

In making a study of fresh blood cells taken from a patient during a convulsion, we noticed a greatly increased ameboid action of the white blood cells. This ameboid action was also found in blood collected between convulsions. At first we thought it might be a parasite, as its size and movements resembled the ameba *nana*, but decided it probably was due to the mercury inunctions. However, in watching these cells under the microscope we noticed that after a certain time they, too, ruptured and gave out into the stream minute bodies in very much the same way as the ameba of the upper intestinal tract had done. So we decided to do some blood culture work on these cases.

The first blood culture taken in bullion, using about 50 cc of bullion and 5 cc of blood, gave us a positive growth in forty-eight hours. The organism found was a large divided coccus. It was not the ordinary diplococcus, but a coffee bean coccus resembling the micrococcus *cattarrhalis* except that it was larger, was Gram positive and usually grouped in tetrads. We also realized it was the same organism we had recovered in the post on the guinea pig, that had been inoculated with blood from an epileptic patient.

The possibility that this might be a contamination led us to take every precaution in making further blood cultures. Using very careful asepsis, we made new culture media. I then selected six cases for blood cultures, again making a careful selection of cases. No culture was opened for forty-eight hours. At the end of that time two of the cultures were positive, three of the cultures were positive in four days and the last one in five days. Two control cultures taken on normal individuals were negative at the end of one week.

Transfers from the blood cultures onto agar media was made. The growth on one of the slants was a deep golden yellow. On four of them the growth was white, but on second trans-

fer turned to a pale golden yellow. The growth on the sixth slant was white and remained so on further transfer.

The organism on all cultures, however, was identical in morphology, staining properties, etc.

This organism was not definitely identified at the time. The very short part of the day we had to devote to this work did not permit of any extensive research. Other duties at the Infirmary occupied most of our time. Our guess was that the organism was a *sarsina*.

Autogenous vaccines were made from each growth. Before the vaccines were finished one of these patients, a young negro lad, developed a status epilepticus. Previous to this time this patient was having a convulsion about once in ten days. His blood culture was one of the two we had to incubate four days before a positive culture was obtained. The convulsions began during the night. The following morning another blood culture was made. This was opened after eighteen hours incubation, and a very heavy growth of this same organism was found. Phagocytosis was very marked in this culture. A smear showed from three to eight cells in a microscopic field completely filled with bacteria. The patient died that night, about twenty-four hours after the beginning of the status epilepticus. I tried to obtain a post on this case, but was unable to do so.

I began giving the vaccines subcutaneously and in very small doses, increasing the dose daily. I was treating three patients. After three injections no one had shown any reaction to the vaccine, although two had no convulsions during those three days. The third one had a slight seizure the second day.

I now began intravenous injections of vaccine. After the first injection one of the patients had a chill lasting twenty minutes. The other two showed no reaction. I continued intravenous injections and the third day this same patient had a second chill, although not quite so severe as the first one.

Our next set of three vaccines was now ready. We considered the vaccine ready for use when the control culture, taken from the vaccine had been sterilized and bottled, was negative after forty-eight hours incubation.

I began treatment on the next three cases by giving the initial dose of vaccine intravenously. Two of the patients had no reaction. The third

patient had two spells that afternoon, two during the night and two the next morning. These were more severe than this patient had been having, so we immediately looked up our control cultures on his vaccine and found them to have a slight growth after three days' incubation, although this culture had shown no growth at the end of forty-eight hours. We realized then that we had not taken into consideration the fact that this organism was slow in growing at certain times. Needless to say that we gave plenty of time and incubation on our control cultures after this, before using the vaccine. I immediately put this patient to bed and administered a sterile solution of mercurochrome, 20 cc of a 2% solution intravenously. His convulsions stopped.

We resterilized this vaccine, using a higher temperature and over a longer period of time. When we were sure this vaccine was sterile I again gave it to this patient intravenously in gradually increased doses. The patient had no convulsions during this time, was improving daily and showed no further ill effects of the first dose. At the present time this man is still in very good condition and is working every day.

While we regretted the oversight in the length of time of incubation of the control cultures, no bad results followed, and I was greatly interested in the fact that a small dose of vaccine containing a very few active organisms could so rapidly increase the epileptic seizures. I hope to do some experimenting along this line at some future time.

I gave these vaccines over a period of about two weeks. After the second dose not one of the six patients I was treating had a convulsion; all of these patients had as many as three to five spells every two weeks before using vaccine, and now they said they felt fine and they were very enthusiastic about the vaccine treatment.

I left Oak Forest, as the field was not large enough, as I thought this work would take at least another year and that it would require more careful observation and time than I would be able to give to it in connection with my other duties at Oak Forest, so I left the Infirmary to take up this work in some other place. I did not think that anyone of the six patients treated at Oak Forest had enough of the vaccine treatment to expect any lasting results. As I had left the institution, I was unable personally to observe these patients and as they were general ward cases, no daily records were kept, so I was unable

to get a complete history of their progress. However, I had told these patients that should their epileptic seizures return, to give such information to Miss Mulroy in the laboratory. This they did quite regularly, so from this observation and from recent personal interviews with these patients we are able to make the following report:

For two weeks following the treatment all of the patients were free from convulsions. In the next two weeks four of them had a slight seizure. These four continued to have convulsions at very irregular intervals, ranging from one to six weeks. The spells gradually increased from slight seizures to more severe type. However, at the present time none of them is having as frequent or as severe convulsions as he had been having before the treatment was given. Each of these patients had at some time during this period received bromide, luminal or some other medication from the dispensary.

The fifth patient had no convulsions for over two months following treatment. He then had a slight convulsion, and was again free from attacks for nearly three months' time. Since then he has had convulsions at intervals of from one to two months, and the seizures are gradually getting a little more severe. This patient, previous to treatment, had from two to four spells each month.

Patient number six, a rather thin, middle-aged man, had a severe amebic dysentery when he was first referred to me. I had treated him for this prior to giving him the vaccine treatment. He had improved but was not entirely free from dysentery, and was still having epileptic seizures. Following eight days' treatment with vaccine, he was entirely free from convulsions for eight months, his intestinal trouble had disappeared, he was feeling fine and had gained fifteen pounds in weight. From the eighth to the tenth month, he said, he occasionally awoke during the night and found himself partly out of bed. This he thought was due to a slight convulsion. Very recently he had a slight seizure during the day, which was his first and only convulsion during the day since receiving the vaccine ten months previous. Whether or not he had had night attacks we can only guess. Neither patient number five or six had received any medication whatever since the vaccine treatment, except an occasional cathartic.

Before entering the Kankakee State Hospital



I treated a private patient in Chicago who was having as many as six spells a day. I used a stock vaccine made from the same organism, no mercury was given. The treatment was as follows:

1 cc equals about 500,000,000 bacteria.

January 16, 1927—1 cc intravenously, a short spell.

January 17, 1927—2 cc intravenously, no spell.

January 18, 1927—3 cc intravenously, a short spell.

January 19, 1927—4 cc intravenously, no spell.

January 20, 1927—5 cc intravenously, no spell.

January 21, 1927—6 cc intravenously, a spell.

January 22, 1927—7 cc intravenously, a slight chill, changed to autogenous vaccine.

January 23, 1927—8 cc intravenously, no spell.

January 26, 1927—10 cc intravenously, no spell.

January 29, 1927—10 cc intravenously, says he feels wonderful.

February 1, 1927—5 cc intravenously, two spells.

February 3, 1927—15 cc intravenously, chill and three short spells.

February 4, 1927—6 cc intravenously, two short spells.

From February 4 to February 13 spells returned, as many as three per day always occurring at night.

February 13, 1927—5 cc intravenously, one spell.

February 14, 1927—5 cc intravenously, no spell.

February 15, 1927—5 cc intravenously, no spell.

February 16, 1927—5 cc intravenously, no spell.

February 17, 1927—5 cc intravenously, no spell.

February 18, 1927—3 cc intravenously, four spells that night.

February 19, 1927—15 cc intravenously, no spell.

February 21, 1927—15 cc intravenously, no spell.

February 23, 1927—15 cc intravenously, no spell.

February 26, 1927—15 cc intravenously, feels wonderful.

When I came back March 1, 1927, he told me he had four spells last night. I gave him twenty cc intravenously and returned the next day for another injection, and his mother said he had gone out looking for a job. At that time I entered the Kankakee State Hospital. Later I tried to get in touch with his patient but found that the family had moved, leaving no address, so I lost track of the case.

I called upon Dr. A. S. Hershfield, State Alienist, explaining the work I had done on epileptic patients, also expressing my desire to continue this work. He referred me to Dr. W. A. Stoker, Managing Officer of the Kankakee State Hospital. Dr. Stoker gave me permission to continue my work along this line in connection with the duties of staff doctor at the institution.

With the kind advice of Dr. Dyer, head physician, I sent circular letters to the guardians of the epileptic patients, securing their permission to carry on this experiment work.

I hope to give a detailed account of my work at the State Hospital after sufficient time has elapsed to give me the information I want regarding the permanency of this treatment. However, I want to make a few preliminary remarks about the work I have done there at this time.

I made approximately 25 blood cultures on epileptic patients at the State Hospital and found all cultures positive to the same organism that I had found in the blood cultures on epileptic cases at Oak Forest; and again found the same variation in the length of time it took to grow the organism.

During the period from March to November, 1927, three patients developed a status epilepticus. These patients were not the cases I had under treatment, so no autogenous vaccine was available. However, I was able to stop the convulsions in all three cases by injecting intravenously large doses of a stock vaccine of this same organism.

Case 1. Convulsions started in the night and were continuous for eight hours. I gave 6 cc. of a very heavy vaccine intravenously. She had two further convulsions during the night. I gave a second large dose the next morning. There were no further convulsions and the patient returned to her duties on the ward that day. Six cc. equals about 6 billion bacteria. This same patient developed a second status epilepticus two months later. These spells were short but very frequent; she has as many as twenty-four in one hour.

I gave 10 cc. of the heavy vaccines. There were no further spells.

Case 2. Male, after continuous convulsions for eight hours 10 cc. of the heavy stock vaccine were given. He had no further spells and felt fine.

Case 3. Convulsions began during the night and continued for twelve hours. I gave 10 cc. of the stock vaccine. The patient had two slight seizures after that. No further vaccine was given, and she was returned to her ward.

I have used the stock vaccine successfully on milder cases of epilepsy at the State Institution.

The positive identification of this organism has been undertaken by Dr. B. Feuer, Instructor of Bacteriology at the Northwestern Medical School. This work is not yet complete, but a preliminary report of the findings submitted by Dr. Feuer is as follows:

#### CULTURAL REACTIONS

	No. 1*	No. 2*	No. 3*	No. 4†	No. 5‡	Sarcina Lutea	Micrococcus tetragnus
Gelatine .....	Liquefied	Peptonize	Liquefied	Neg.	Liquefied	Liquefied	Neg.
Milk .....	Neg.	Liquefied	Peptonize	Slight-ac.	Slight-ac.	Neg.	Slight-ac.
Dextrose .....	Neg.	Neg.	Neg.	Pos.	Pos.	Neg.	Pos.
Lactose .....	Neg.	Neg.	Neg.	Pos.	Pos.	Neg.	Pos.
Sucrose .....	Neg.	Neutral	Neg.	Pos.	Pos.	Neg.	Pos.
Mannite .....	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Pos.
Pigment .....	Lemon Yellow	Lemon Yellow	Lemon Yellow	White	White	Lemon Yellow	White
Motility .....	None	None	None	None	None	None	None
Spores .....	None	None	None	None	None	None	None
Gram Stain .....	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.

\*Nos. 1, 2, 3—Transfers from original slants three months old.

†No. 4—Original slant 10 days old.

‡No. 5—Original slant few days old.

#### CONCLUSIONS

That all epileptic patients examined gave a history of intestinal disturbances.

That intestinal parasites, especially the *entameba histolytica*, were positive in 100 per cent. of the cases examined.

That after two or three injections of Neu-salvarsan, either intravenously or intra-duodenally, the parasites disappear from the feces but are still present in large numbers in the upper intestinal tract.

That the continued use of mercury inunctions over a long period of time will rid the upper intestinal and biliary tracts of this parasite.

That the blood cultures of epileptic patients were positive to a large Gram positive organism, the *micrococcus tetragnus* in 100 per cent. of cases examined.

That the injections of autogenous vaccine made from this organism, relieved the patient of epileptic seizures for a certain length of time.

That a stock vaccine made from this organism

relieved the convulsions of status-epilepticus in three cases, which was 100 per cent. of the cases treated.

That all cases treated improved and that further study is indicated to determine whether this improvement is permanent or transitory.

#### THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS\*

CARL A. HEDBLUM, M. D.

CHICAGO

The primary object of the surgical treatment of pulmonary tuberculosis is pulmonary collapse. The principles on which such treatment is based are rest of the diseased lung, fibrosis, collapse of tuberculous cavitations, arrest of hemorrhage,

and indirectly promoting healing of tuberculous lesions elsewhere by arresting the progress of the primary lesion.

Rest is the most important essential in the treatment of tuberculosis. Confining the patient to bed lessens respiratory activity but does not put the diseased lung at rest. Its volume fluctuates with each respiratory excursion and the flow of toxin and bacilli laden lymph into the blood stream is accelerated by this pump like action. Cough further accelerates this flow and tends to disseminate the infection through the bronchial tree. Pulmonary collapse puts the lung at rest and reduces to a minimum toxic absorption and spread of the disease.

Tuberculosis lesions heal by fibrous tissue encapsulation and contraction.

Extensive fibrous tissue shrinkage of the lung

\*From the Surgical Department, College of Medicine, University of Illinois.

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is limited by the rigidity of the chest wall and mediastinum. The effort at such shrinkage is evidenced by sunken supra and infra-clavicular fossae, by the approximation and increased obliquity of the ribs and by the shifting of heart, trachea, and great vessels towards the effected side. In extreme cases of right sided fibrosis a complete extrocardia results. Mobilizing the chest wall and relaxing the diaphragm makes possible a maximum shrinkage of the lung without displacement of the mediastinum. The collapsed condition of the lung stimulates an increased fibrous tissue formation which further encapsulates the lesions, limits their spread, and furnishes the best safeguard against reactivation.

Tuberculous cavitations of considerable size cannot heal because their walls cannot approximate. Such cavitations usually become secondarily infected and the consequent chronic supuration increases cough and sputum and may play the major role in determining an unfavorable course.

Pulmonary collapse facilitates the drainage and healing of such tuberculous cavitations.

Pulmonary hemorrhage whether of the small recurrent or profuse type is a serious complication in that it reduces the patient's defense reaction against the disease even though the loss of blood in itself may not be sufficient to threaten the patient's life. Pulmonary collapse or compression is the ultimate recourse in such cases.

Healing of secondary tuberculous lesions following the eradication of the primary focus such as orchidectomy, nephrectomy, or excision of a tuberculous joint, is frequently observed. Similar healing of secondary foci may also be obtained following the arrest of a primary pulmonary tuberculous lesion.

The obliteration of chronic empyema complicating pneumothorax collapse whether or not there is secondary pyogenic infection can usually be achieved only by thoracoplasty collapse of the chest wall.

*Methods of Pulmonary Collapse.* The methods of pulmonary collapse are artificial pneumothorax, paralysis of the diaphragm, extra-pleural thoracoplasty and pneumolysis. Artificial pneumothorax in the absence of adhesions results in the maximum amount of pulmonary collapse. Thoracoplasty under favorable conditions approximates pneumothorax in the extent of col-

lapse achieved. Paralysis of the diaphragm results in a reduction of the pleural cavity of about one-fourth. Pneumolysis brings about a compression of the lung in proportion to the extent of lung surface separated from the chest wall and to the mass of the interposed compressing substance—muscle, fatty tissue, gauze.

*Indications.* The indications for pulmonary collapse generally speaking is limited to patients who do not make satisfactory progress following modern sanitarium treatment or its equivalent. The indications for the different methods of collapse enumerated vary considerably. Artificial pneumothorax is usually considered as part of the non-surgical treatment, and its discussion therefor lies outside the limits set for this paper. It may be in order, however, to state that pneumothorax is usually the treatment of choice. It is a simple, relatively safe procedure, results in the most complete collapse of the lung and offers a fair prospect of restoration of function after the lesion has healed. Its greatest limitation is pleural adhesions. Other disadvantages are frequency of complicating pleural effusion which occurs in about half the cases and which not infrequently becomes purulent, necessitating thoracoplasty and in some cases further plastic operation to obliterate the empyema cavity. The pneumothorax refills must be continued for years and there is uncertainty as to when it is safe to allow the lung to re-expand. If too early the lesion may again become active. If the lung is kept collapsed for several years the fibrosis may have become too extensive to permit re-expansion. This is the more likely, the more extensive the lesion before the collapse. Many patients abandon treatment before the time limit set. For economic reasons also it may be desirable to elect thoracoplasty which is completed in a few weeks rather than pneumothorax collapse that must be kept up for years.

Paralysis of the diaphragm may be effected by crushing or cutting the phrenic nerve just above the clavicle or by extracting the intra-thoracic portion—phrenicoexeresis. The latter is a relatively simple and safe operation. The advantage of extracting the nerve lies in the fact that in a considerable proportion of cases some of the fibers of the nerve enter the main trunk below the level of the clavicle and these fibers will maintain a partial enervation of the diaphragm after the nerve is cut at a higher level. A com-

plete collapse may be achieved also by isolating and cutting the trunk fibers that make up the nerve.

The chief indications for phrenico-exeresis are as a test operation to determine whether or not a thoracoplasty may be safely done and as a supplementary operation to thoracoplasty. There is a rational indication for it also supplementary to artificial pneumothorax to reduce the pleural cavity to a re-expanded partly shrunken lung. It is also said that the interval between refills may be lengthened following its use and that it reduces the tendency to pleural effusion. There may also be an indication for it in case of patients in whom adhesions prevent pneumothorax collapse and who are in too poor condition for extrapleural thoracoplasty.

The fundamental indications for extrapleural thoracoplasty is a chronic, unilateral, fibrous pulmonary tuberculosis in contra-indication to a caseating process.

Chronicity is indicative of natural resistance and this natural resistance is evidenced clinically by a fairly good general condition of the patient and by physical signs of pulmonary shrinkage as mentioned above. Chronicity with persistence of symptoms also implies that although fibrosis has sufficed to hold the disease in check it has not been sufficient to bring about a cure.

Unilateral involvement is an essential requirement inasmuch as after thoracoplasty the other lung must perform the entire respiratory function. Strictly speaking, however, chronic unilateral involvement probably never occurs. What is meant is that the disease in the opposite good lung is not demonstrable clinically or if it is that it is of limited extent and not progressive. The question as to whether a lesion is progressive or not may be impossible to determine except by some months observation.

The third stipulation, that of pleural adhesions preventing pneumothorax collapse is on the assumption that pneumothorax as stated above is the treatment of choice.

Other considerations which affect prognosis are age, side, and location of the lesion for which collapse is done, location of the lesion on the opposite side, presence of tuberculosis elsewhere in the body and other non-tuberculous disease. Thoracoplasty in children has yielded relatively less satisfactory results than in adults. The most favorable age period is between twenty, and

forty-five, but patients past fifty have been operated upon with good results. Thoracoplasty on the left side, presumably because of the presence of the heart, results in better compression of the left lung. Lesions at the apex have responded better than those at the hilum or base. Experience indicates that lesions at the hilum or base on the opposite side are more likely to progress following the operation, but favorable results have been reported in such cases. Laryngeal tuberculosis, unless of severe ulcerative type, has been found to improve following operation. Tuberculosis of the kidneys and bones and joints is considered as contraindication by some, while others have reported good results following operation in such cases.

Of non-tuberculous diseases those of the opposite lung and of the heart are the most important. Asthma, chronic bronchitis, bronchiectasis, and extensive fibrosis are generally considered as contraindications. The vital capacity determination is of real value in estimating the severity of the damage caused by these disease conditions. Cardiac lesions furnish a relative contraindication according to the nature and severity of the process, but cardiac symptoms due to displacement of the heart, particularly to the right, are relieved by operation.

Contraindications to thoracoplasty are rapidly progressive caseating lesions, extensive fibrosis in the opposite lung sufficient to greatly reduce its respiratory capacity, active or extensive extrapulmonary tuberculosis and all other conditions contraindicating any major surgical procedure.

There remains a group of border line cases in which there exists a relative indication for a several stage thoracoplasty. Such are patients with evidence of a mixed fibrous and caseating lesion, those with moderately extensive healed, or a localized quiescent lesion in the opposite lung, those with non-thoracic tuberculosis of mild grade or non-tuberculosis organic disease.

The clinical recognition of the predominating pathological type present, while of the greatest importance, may be difficult and uncertain. The collaboration of the surgeon with a skilled internist who has made a special study of pulmonary tuberculosis and particularly one who has followed the progress of the individual patient is essential to the selection of cases for operation.

The indications for operation may be extended



to a large proportion of these patients by doing a multiple stage operation, doing only as much at each sitting as the patient will safely stand. Some of the most gratifying results in my experience have been in case of patients on whom a six or more stage operation is necessary.

*Operative Technique.* The technique of phrenico-exeresis is quite simple. An incision four—six centimeters long is made just above and parallel to the clavicle, the mid-point of the incision being over the lateral border of the sterno-mastoid muscle. The fascia overlying the scalenus muscle is separated and the nerve exposed as it crosses the scalenus obliquely from above downward and inward. The nerve is grasped with a hemostat, cut and the distal portion slowly extracted by twisting the hemostat. Usually a little gas anesthesia is required only during the few moments necessary for extracting the nerve.

The technique of extrapleural thoracoplasty has been quite well standardized with respect to the number and length of ribs to be resected. All the ribs except the twelfth are resected flush with the transverse processes of the vertebrae. About an 8 cm. segment is removed from the eleventh, from 8 to 15 cm. segments of those above up to about the fifth, and somewhat shorter segments of each of the fourth, third, and second, and from  $2\frac{1}{2}$  to 5 cm. of the first. It is generally agreed that it is necessary to include the first rib in all cases in which the lesion is at the apex, and since the more complete collapse the better, it seems advisable always to respect it. Most of the narrowing of the thorax is due to a longitudinal drop of the whole chest wall to such an extent that the distal stump of the first rib comes to lie opposite the second or third proximal stump. If the first rib is intact, it prevents such a marked drop. The resection of the first rib is not very difficult technically, but it is essential to separate the periosteum from the upper and anterior edge of the rib well beyond the line chosen for the resection. Carrying the resection too far forward involves the risk of injuring the subclavian vessels.

Extrapleural thoracoplasty should be performed in two or more stages, depending on the general condition of the patient and the extent that it is proposed to resect. The operation was at first performed in one stage and then in two stages when it was found that many patients

could not withstand the one stage operation. The present tendency is to standardize the two stage operation. This, in my opinion, is wrong in principle. The indications as to stages should be individualized. If a two stage operation is safer than a one stage, then a three stage should be, and in my opinion is, even more safe. By dividing the operation into several stages, the indication may be extended to patients that otherwise would be too poor risks, and the hazards from operation can thereby be reduced to a minimum.

One disadvantage of the several stage subperiosteal resection, done at from one to two weeks interval, is that sufficient time is thereby allowed for callus formation in the ribs first resected. The resulting stiffening of the lower portion of the chest wall may then prevent the maximum drop, and the eventual collapse is not as complete as following a two stage operation. This callus formation may be much retarded by cauterizing the periosteum with a chemical cautery at each of the first stages or by resection a portion of all of the periosteum with the ribs, as I have done in several cases. If the collapse is insufficient from callus formation or stiffening of the ribs and chest wall from empyema, a resection of the remaining segments of the ribs will complete it. This secondary resection of the remaining segments may be performed through a midaxillary straight incision without cutting any muscles except longitudinal incisions into the serratus major. The remaining segment of the first rib can be removed without much difficulty by this approach. The one essential precaution is to keep inside the periosteal sheath in liberating it.

One consideration which has been a large factor in the choice of one, two, or several stage operation has been the preference as to anesthesia. On the continent many surgeons, notably Sauerbruch, use ether. In using a general anesthetic and especially ether, there is a strong tendency to do as much as the limits of safety will allow after the patient is asleep. The desirability of shortening the period of anesthesia as much as possible also puts a high premium on speed in the performance of the operation. A master of technic can perhaps perform the operation as well in a minimum of time as if he took more time to it, but it seems reasonable to believe that most surgeons cannot. If the operation is per-

formed under a combination of local and ethylene or local and nitrous oxide and oxygen anesthesia, there is no special need for hastening the conclusion of the operation. It can be performed safely with as much attention to details as can any other operation under similar anesthesia. If the regional anesthesia is efficient, the gas anesthesia may be reduced to the anoci-association stage to relieve the patient of the psychic stress of the ordeal. If to this combination is added an alcohol injection of the nerve trunks, or if the nerve is crushed with a hemostat, there is very little, if any, postoperative pain. Under such conditions no patient in my experience has objected to a several stage operation. The long continued anesthesia brought about at the time of the posterior resection makes possible later resection of the remaining segments, where necessary, with the aid of a little gas anesthesia only. In one patient with symptoms of an active tuberculosis and an empyema with complete lung collapse the patient's resistance was so poor that only a very little could be done at each sitting. A complete collapse was achieved in twelve sittings. The patient has been well during the four years since operation and is back at work.

*Results.* The most convincing evidence of the value of thoracoplasty in the treatment of pulmonary tuberculosis is the result. In a series of 1,159 cases of advanced lesions, collected from the literature by Alexander, 36.8 per cent. were cured, 24.4 per cent. were improved and 5 per cent. were unimproved or became worse. The immediate operative mortality was approximately 1.5 per cent. and the additional mortality during the first six weeks from causes indirectly connected with operation was 12 per cent. The deaths in the remaining 19 per cent. had no connection with the operation, and most of them were due to the progression of the tuberculous disease in the opposite lung or other organs. Twelve to twenty-four per cent. of Sauerbruch's cases died from bilateral tuberculosis in spite of the operation. The importance to prognosis of distinguishing between the chronic fibrous proliferative and the rapidly progressing predominantly exudative caseating type is indicated by the fact that in a group of thirty-five cases of those reported from his clinic, the combined early and later mortality was only 6 per cent., 17 per cent. were unchanged or worse, 34 per

cent. rendered free from bacilli, and 40 per cent. cured, while in the caseating type the combined mortality was 49 per cent., 18 per cent. were unimproved or worse, 15 per cent. were better, and 13 per cent. bacilli-free.

During the past two and a half years I have performed a phrenico-exeresis on 11 patients, a thoracoplasty in 21 patients, (phrenico-exeresis and thoracoplasty in 6, and extrapleural thoracoplasty and pneumolysis in one. The patients on whom phrenico-exeresis alone was performed were all cases with evident bilateral involvement and were all unfavorable cases for thoracoplasty. Three were very definitely improved as evidenced by marked decrease in cough and sputum and gain in weight. Four were temporarily benefited. One died a few days after operation with symptoms of respiratory failure. This patient had marked dyspnea on slight exertion and her vital capacity was only about 25 per cent. of the normal. Her pulmonary lesion was of the diffuse fibrous type but bilateral. Three have died at varying periods following the operation from the progress of the disease.

Of the twenty-two patients on whom thoracoplasty alone was performed 9 may be said to be symptomatically cured during the period of observation since operation, 10 were greatly improved, but 2 of these have had a mild relapse of symptoms; two died, one of streptococcus infection of a pleural exudate and the other following the rupture of a sterile pleural effusion into a bronchus. Of the patients on whom thoracoplasty and phrenico-exeresis was performed all have shown great improvement during the period of observation.

Pneumolysis and thoracoplasty was performed in one case for persistent hemoptysis following a partial thoracoplasty performed elsewhere. The thoracoplasty was completed and a latissimus dorsi muscle flap was interposed between the lung and the chest wall. There has been no frank hemoptysis since but the sputum is occasionally blood streaked. The tuberculous process is arrested.

#### SUMMARY

1. Pulmonary collapse is of great value in the treatment of pulmonary tuberculosis because it promotes healing of the lesion, diminishes toxic absorption, and lessens the tendency of the disease to spread.



2. Healing results from fibrous tissue encapsulation of the lesion. The relaxation of the lung makes possible the maximum fibrous contraction and by rest of the lung and by venous and lymphatic stasis stimulates fibrous tissue formation.

3. Toxic absorption is lessened owing to the slowing of the lymph and blood stream and the collapse of cavitations.

4. The spread of the disease through the blood and lymph stream is similarly retarded and the lessened cough and sputum decrease the tendency to the dissemination of the infection through the bronchial tract.

5. Extrapleural thoracoplasty is the only practical means of obtaining complete collapse of the lung in cases in which pleural adhesions make pneumothorax collapse impossible. The operation consists of the resection of segments of the proximal portions of the upper eleven ribs.

6. The indications for extrapleural thoracoplasty are limited to cases in which the condition of the other lung is satisfactory, that do not show definite progress towards recovery following adequate sanitarium treatment or its equivalent, and in which adequate pneumothorax collapse is impossible owing to adhesions.

7. The ideal condition with respect to the opposite lung is one in which there is no evidence of disease of any kind, but a healed focus or an inactive one with or without cavitation, does not contraindicate operation. A definitely active, progressive tuberculous process or well marked non-tuberculous disease in the better lung contraindicates operation.

8. An associated tuberculous empyema with large cavity, whether primary or secondary to pneumothorax collapse, is an indication for operation. Tuberculosis elsewhere in the body and other constitutional disease may or may not contraindicate operation, depending on the severity of the lesion and the general condition of the patient.

9. By dividing the thoracoplasty into more than two stages the indication for it may be extended to patients who would be poor risks for a one or two stage operation.

10. A study of results following thoracoplasty in a large series of collected cases shows that over 60 per cent. were clinically speaking

cured or greatly improved, and the total mortality during the first six weeks following operation was 13.5 per cent.

11. The author reports recent results in a series of 29 cases following thoracoplasty and in 11 cases following phrenico-exeresis.

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## TRACHOMA: A REVIEW OF THE LITERATURE

JOSEPH S. WALDMAN, M.D.,

HERRIN, ILLINOIS

When one considers the economical loss from trachoma and its consequences, it would seem that it is high time that this dreaded disease be given state and national attention, for by the simplest calculation based on previous reports of the prevalence of trachoma, in the state of Illinois alone the loss of earning power, computed on the basis of \$5.00 a day, amounts to nearly one-half million dollars annually.

From the foregoing facts is it not reasonable then to bring to the attention of our state public health authorities the necessity of establishing a special committee whose function would be to secure definite data as to the incidence and systemized control of trachoma?

Although the literature on public health subjects in general is profuse, one can search quite a bit before finding the subject of trachoma discussed at any length. In reviewing the papers of foreign ophthalmologists it is interesting to note the efforts they are expending to bring their governments to a realization of the importance of trachoma control.

Trachoma, like acute blennorrhea, is an infection of the conjunctiva which originates by infection and produces an infectious secretion. It is distinguished from acute blennorrhea principally by its chronic course, and by the development of a hypertrophy of the conjunctiva which is a most characteristic feature of trachoma. From the roughness of the conjunctiva, caused by this hypertrophy, the disease gets its name.

The disease almost always affects both eyes. Cases occur in which the disease, even after it has lasted for years remains confined to one eye. Infection takes place by the transfer of the secretion.

*Etiological Studies.* Trachoma is an infec-

tious disease. Most authors agree as to the direct contact method of infection through the secretions of those afflicted. A few opinions are gathered from authors scattered in various parts of the world. The White Brothers<sup>1</sup> with an extensive experience regard trachoma as a symbiotic infection, and its different varieties and degrees produced by different strains of the virus.

Martinez Nevot<sup>2</sup> discusses 250 cases observed in the Malaga region. He is of the opinion that trachoma is largely due to deficient hygiene, which in its various aspects promotes the development of adenoid tissue, creating a direct predisposition.

Contrary to the general rule, Mellet<sup>3</sup> does not regard trachoma as contagious in adults. He considers it as a chronic conjunctivitis, following one or two attacks not properly or sufficiently treated. He thinks that trachoma can develop only in individuals in whom adenoid involution has not yet taken place; that it is a palpebral adenoiditis, at first acute, then chronic with acute exacerbations.

Nicolle<sup>4</sup> believes that there are various forms of trachoma virus. One form is adapted to the human conjunctiva where it has developed a special seriousness. For this form, the name of trachoma should be reserved. This virus has the property, when inoculated in susceptible animals, of producing lesions of the human type with special evolution and localization.

Howard<sup>5</sup> believes that cell phagocytosis and the digestion of parasitic bacteria occur regularly as the last defensive process in the fight of the epithelial cells against the excitors of purulent inflammation of the conjunctiva. To Metschnikoff's classification of phagocytes, which is limited to a highly differentiated group of cells of mesodermal origin, must now be added cells of exodermal origin, viz: the epithelial cells of the conjunctiva which is one of the mucous membranes of the body.

In the light of our new knowledge of the proof of epithelial cell phagocytosis, our conception of the epithelial cell inclusion bodies in such disease as trachoma is greatly simplified. Intracellular proliferation of microorganisms, according to Howard, is not a process or a phenomenon unique for inclusion bodies alone. It also occurs in the realm of known bacteria, e. g., the bacillus murisepticus is phagocytosed by

the endothelial cells (mesodermal phagocytes) of blood vessels in mice, and proliferates within the substance of these cells.

The initial bodies of trachoma, which are stained blue by Giemsa's or Lindner's contrast method, should be considered as the active virus of these diseases. Whether the initial bodies are bacteria or protozoa is a problem which must be settled by bacteriologists. It is Howard's opinion that there are two types of trachoma, the ocular or insidiously beginning chronic trachoma, and genital trachoma, which as regards origin includes inclusion blennorrhea of the newborn and acute trachoma in adults.

Lately Noguchi<sup>42</sup> has given us some very important findings as to a possible micro-organism, which in five cases produced such strikingly similar lesions as are found in human trachoma that the conjunctivae of the experimental animals were pronounced by most competent authorities to be trachomatous.

Direct inoculations from the conjunctivae of Indians suffering from trachoma proved unsuccessful, but when special culture media was used and materials from these applied, the animals developed a granular conjunctivitis in from two to four weeks, which in from two to five months showed the conjunctivae to be strikingly like that in human trachoma.

However, Noguchi thinks the trachoma of these Indian patients from whom materials were collected to use on the monkeys, differs from other types and he states, that in spite of the fact that he had as many as three series of transmissions of the disease, it remains to be determined whether or not the parasite is related to forms of trachoma other than that occurring in American Indians. This must be determined by isolation of the micro-organisms from cases in other localities, and possibly also by serological examinations.

*Incidence of the Disease.* In August, 1926, the writer interviewed the head of the Illinois Department of Public Health on the matter of trachoma in southern Illinois, and was told that the department did not think trachoma could be considered a menace in the state. The official quoted the results of a survey made by the department in some of the schools in several southern counties of the state. There was a disagreement by a member of the U. S. Public Health service as to the number of cases pronounced



trachoma by a former member of one of our state charitable institutions. The department then came to the conclusion that there was but little trachoma in the state of Illinois.

Our immigration laws and hygienic and sanitary schools have removed epidemic trachoma, but in certain districts in America and Europe there exists persistent foci of the disease. As late as August 1924, according to Fox<sup>6</sup>, there were 350 cases among 3500 Blackfoot Indians on the reservation adjacent to Glacier Park, emphasizing a greater need of interest in these governmental wards.

The findings of W. Wibaut and W. H. Smith<sup>7</sup>, in Amsterdam, Holland, is one of interest. In the period of 1914-1917 a survey of trachomatous subjects was carried out by a commission appointed for this purpose. Statistics were gathered from schools and families and clinics. It was found that the majority of the cases occurred between the ages of 1 and 6 years, i. e. in children of pre-school age. Hence, the source of infection chiefly in the family, the school playing only a secondary role. An astonishing finding was that most of the children found trachomatous had no other functional troubles, and had never received any treatment.

E. Blessig and O. Kurkis<sup>8</sup> of Berlin report that from 1805 to 1922, the statistics disclose a decrease in the percentage of trachoma patients at the Dorpat clinic from 61.1% in 1805-42 to 9.86% in 1920-22. Trachoma still holds first rank however, as a cause of blindness in Esthonia.

Harvey J. Howard<sup>5</sup> of Shanghai is of the opinion that although there are no adequate statistics concerning the incidence of trachoma among school children in China, the author's observation and information have convinced him that trachoma is rampant throughout the country. It affects directly almost every family in every class of society, but chiefly where uncleanness and ignorance is concerned. A very conservative estimate indicates that 30% of the population is affected. This means 12,000,000 Chinese have trachoma, 2,000,000 being blind in both eyes, and 5,000,000 in one eye.

In African orphan asylums the incidence of the disease sometimes runs as high as 50%. In Egypt in 1920 it was 96%, and in 3 years was cut down to 85%. It was diminished in the government schools of Cairo to 35% in 1900.

Pre-war statistics show that 3,000,000 persons in Russia are affected, the disease being most widespread in the Volga Basin.

*The Diagnosis of Trachoma.* There are several conditions resembling trachoma particularly in the formation of the granulations. Chief among these is follicular catarrh. The two diseases are very similar in that lymph follicles occur as a characteristic formation in both. In follicular catarrh they are smaller, are more sharply limited, and project farther above the surface of the conjunctiva. In trachoma, they are larger, destitute of sharp outlines, and less prominent.

The follicles proper are often cylindrical and arranged side by side in a row like a string of pearls, while trachomatous granulations are round and more rarely present such arrangement. But these characteristics are sometimes so obscured that even experts cannot, in many cases, make the diagnosis with certainty, and the subsequent course of the disease alone affords the desired information. Even in the histological structure no distinction can be found between follicles and trachomatous granulations. These two diseases have repeatedly been confounded with each other and some authors, in fact, explain follicular catarrh as being a form of trachoma distinguished by its mildness and freedom of danger.

It is not yet certain whether follicular catarrh is spread by contagion, like trachoma, or is merely the result of the contamination of the air and dust. On the other hand, it is quite satisfactorily established that, under certain circumstances, follicular catarrh may arise without any contagion whatever. This is the case with the catarrh produced by atropine, in which the irritation is chemical.

A more important point of distinction between both diseases is their clinical course. Follicular catarrh is not associated to any considerable degree, with papillary hypertrophy of the conjunctiva, with pannus, or with any of the other sequelae. It is a disease free of serious sequelae and even without any treatment finally disappears and leaves no trace behind. From the standpoint of prognosis alone, the differentiation of the two diseases is not only theoretically, but also practically, of great importance.

If a physician is doubtful whether he is dealing with trachoma or a follicular catarrh, a dis-

tion which often cannot be made in the first examination, especially in early cases, he must classify the case as one of suspected trachoma, take the necessary steps to avoid the spread of the disease, and institute treatment at once. If these measures lead to rapid decline of the inflammation and diminution in size of the granulations in a few days, the case is one of follicular catarrh, since trachoma is much more obstinate.

We must regard the formation of granulations as a non-specific reaction which the conjunctiva, like other mucous membranes, exhibits toward many different sorts of irritants. Such formation of granulations occurs in its most pronounced form in trachoma and follicular catarrh.

According to Stuckey<sup>9</sup>, pannus is pathognomonic of trachoma in China. The cicatrices of old trachoma appears as narrow striae in the red and thickened tarsal conjunctiva of the upper lid. They run chiefly more or less parallel to the lid margin. Cases which clear up readily with astringents are not trachoma. There are few conditions besides follicular conjunctivitis which are likely to be mistaken for trachoma. Calcareous spots are whiter than trachoma and often irregular in shape. Careful examination easily differentiates chalazion.

Several experimenters have attempted to associate certain serologic reactions in connection with trachoma.

Salvatore Sgross<sup>10</sup> believes that the disease being so prolonged and alterations so profound that it must provoke the formation of specific anti-bodies in the blood. He studied 47 patients with various stages of trachoma, also using controls with and without ocular disturbances. In a first series of tests antigen was prepared by macerating with alcohol fresh granulations taken from conjunctivae. In a second series an aqueous extract was used, the trachoma material being suspended in a 5% phenolized physiologic solution at a dilution of 1:10,000. A third series of tests was carried out on control alone.

As a result the author concluded that there are special substances in the blood of trachomatous persons which are able to prevent hemolysis in the presence of antigen obtained from material removed from the conjunctiva of trachomatous subjects. This reaction is more evident in cases of chronic trachoma, especially

when corneal lesions are present. It was negative in fresh cases, those in which the infection was less than 15 days old.

L. Maucione<sup>11</sup> made observations on the von Pirquet cutaneous reaction in relation to trachoma and vernal conjunctivitis. Experiments were made with the cutaneous reaction in 61 persons affected with trachoma and free from active or healed tuberculous lesions. The subjects represented several forms of disease from the papillary and granular to the lymphoid and sclero-fibroid. Of the whole 9 were affected with acute trachoma, 6 were negative, 3 positive. Eighteen had a subacute trachoma or a recrudescence, and in 5 of these the reaction was negative, in 13 positive. Thirty-one were chronic cases, in 6 of which the reaction was negative. Three were affected with cicatricial trachoma, and in all of these the reaction was positive. It was observed that those with the large granules and the lymphoid or fungous types gave a more strongly positive reaction. In only 3 of the 20 cases of vernal catarrh in the series was the action slightly positive.

We are indebted to Gallemer<sup>12</sup> for an excellent method of examining trachomatous eyes with the aid of the slit lamp and the Csapksis microscope in combination with vital staining. He employs either .4% methylene blue, .4% Nile blue, or .5% methylene azure. Pain is controlled with cocaine. Old solutions are more effective than the fresh ones. The progressive infiltration of the stain can be watched under microscope. Too intense coloring may be modified by a 3-4% tannin lotion.

Kenchowski and Kareuls<sup>14</sup> who made experiments in vitro to learn the behavior of serum of trachomatous and normal subjects in the presence of red corpuscles, were able to demonstrate that the serum of healthy individuals in a dilution of 1:2,000 hemolyzed sheep red cells in 100% of cases, while that of trachomatous patients hemolyzed in a dilution of 1:64. Continuing their studies further, they showed that when the cells were inactivated by heating to 56.6° C. for one-half hour, the normal serum lost all of its hemolytic property, while the trachomatous serum kept it.

Gangi<sup>14</sup> made similar experiments in order that he might have a larger number of cases from which to draw conclusions, at the same time taking into account the stage of the disease.



He studied 85 serums, in which 55 were from subjects in various stages of trachoma and 30 from normal subjects or persons suffering from various diseases of the eye. He found there was *no* appreciable difference in these serums in respect to their hemolytic power. There were occasionally differences between the serum of normal persons and that of persons with eye diseases, but these were inconstant. In cases of florid trachoma there was a greater degree of hemolytic power than in those of healed trachoma.

Linder revolutionized our conception of the *modus operandi* of conjunctival infections by his theory that the pathogenic bacteria which affect the mucosa of the eye are epithelial parasites. The old method of making smears from the conjunctival secretion is unsatisfactory since the parasites are found primarily in the epithelium and not in the secretion. By Lindner's method the nature of the causative micro-organisms can frequently be determined several days before secretion appears. The instrument used is a platinum spatula with a moderately sharp edge to scrape the epithelial cells (the ordinary platinum loop is unsuitable.) The conjunctiva is anesthetized with a 5% and later with 10% cocaine. After removal of the debris its surface is scraped, just enough pressure being exerted to remove the epithelium, but not enough to cause bleeding. The material on the spatula is then smeared on the surface of the cover-glass as thin as possible. For clinical purposes Loeffler's methylene-blue is satisfactory. The bacteria and nuclei of the epithelial cells take a deep blue color and the protoplasm a light blue.

#### TREATMENT

The variety of treatment advocated in this disease leads us to the conclusion that there is as yet no specific. We see strong claims for medical as well as surgical methods, and lately the various actino-therapeutic modalities have been applied with varying success. We can but enumerate at this time those methods of treatments, which in the hands of our co-workers have yielded fairly constant results.

Donnell's<sup>18</sup> treatment begins with a stiff massage of the inner surface of the eyelids with a 1% solution of silver nitrate, repeated 2 or 3 times a week in gradually increasing strength until the point of toleration is reached.

Soraa<sup>19</sup> in Barcelona advocates tonic and hygienic measures as very important. He uses tonic preparations such as cod-liver oil or preparations of iodine-arsenic or hypophosphites.

The White brothers<sup>20</sup> in Dallas have used many drugs without material success. Silver nitrate was their first choice followed closely by copper sulphate, then bichloride. Dionin and jequirity were efficacious temporarily in pannus, but they feel that neither should be used for any lengthy periods unless the lid condition is improved. They tried subcutaneous milk injections in 86 cases; irritic pains stopped, but the lid or globe symptoms were not affected. Subconjunctival injection of mercury cyanid in 52 cases yielded no apparent results.

The writer, hearing of the establishment of three stations, for the especial purpose of treating trachoma in the mid-southern area, was interested to know what routine treatment if any had been adopted by the government surgeons working under the Public Health Service.

The nearest station was at Rolla, Missouri, and in reply to the inquiry Dr. Mossman<sup>43</sup> medical officer in charge courteously offered his routine treatment.

He says, "The aim should be, to remove the follicles with as little trauma to the underlying tissues as possible, in order to reduce the amount of resultant scar tissue to a minimum." His method is to scarify the surface covered by the follicles by making multiple punctures with the point of a scalpel or by gentle scraping.

In children, general anesthesia is required. In adults 4% cocaine, 4 drops at intervals of one minute or butyn (2%) solution two minutes apart.

The New York Eye and Ear Infirmary special lid clamp is used to hold the lid and after scarification, which should puncture the follicles, but not go deep enough to penetrate the vascular layer of the lid, the surface is rubbed gently but firmly with gauze wrung out of 1-1000 bichloride of mercury, till the lid appears smooth and white. The canthi are carefully reached. Irrigation with warm boric acid follows, and 2 drops of 20% argyrol are then instilled. The irrigation and argyrol are repeated every 3 hours giving 5 treatments per day. Within 24 hours after grattage a white membranous slough appears and persists for about a week. If any rough places remain after the slough disappears

they should be painted with 2-5% silver nitrate or 4% trichloroacetic, and the eye must be irrigated.

After argyrol has been used continuously for a week or so, it should be replaced by an astringent solution *not* containing silver, to guard against argyrosis. A prescription containing zinc sulfate grain, j. boric acid 15 grains to one ounce of water is used.

Recently the writer has followed a procedure which in his hands has given good results in most cases, and the end result desired being a clean conjunctiva with least possible scar tissue, he agrees with Dr. Møssman that less trauma and irritation applied the better.

Dry boric acid powdered is placed in a shallow glass dish and about 2 or 3 cc. of oxy-cyanide of mercury solution 1 to 3,000 is poured into the dish which is put in a slanting position so that the boric powder does not directly mix with the cyanide. A glass rod fused smooth and somewhat rounded is first moistened in the oxy-cyanide of mercury solution then rolled in the boric powder which readily adheres. The combination is then gently but firmly massaged over the everted lid and rubbed till dissolved by the lachrymal flow. This is repeated 5 or 6 times on the upper lid and once or twice on the lower. A separate clean glass rod or the reverse end of the first one is used to treat the other eye if affected.

Rarely has it been necessary to use any anesthetic. The patient opens his eyes readily in 5 to 15 minutes and hardly ever complains of pain. This can be kept up for a week giving daily applications with 10 to 20% argyrol to be instilled at home after boric wash, or the 1 to 5,000 up to 1 to 1,000 oxy-cyanide of mercury may be prescribed as a wash followed in a few moments by argyrol. Very resistant cases are given an occasional rub with the blue stone and silver nitrate in 2% solution, but at no time are the stronger astringents used oftener than 4 days apart, the milder boric rubs being the routine. In cases with ulcers, combining atropine with dionin and the boric, oxy-cyanide of Hg rubs, excellent results with quick recovery has been the writer's experience.

Howard<sup>5</sup> at Shanghai, China, has had a very large experience with the disease. He outlines a procedure which proved satisfactory to the out-patients. In adults and older children, the

conjunctiva is cocainized. In young children general anesthesia is employed. The eyelids are retroverted so that the retrotarsal folds are fully exposed; the conjunctiva is rubbed vigorously with dry gauze, thus removing most of the loose trachomatous elements and opening most of the follicles and papillae. Any unopened follicles are opened with the point of a cataract knife and emptied by wiping with dry gauze. To reach follicles in the bulbar conjunctiva and semi-lunilar fold and about the caruncle, a small Prince forceps is used. After all the follicles have been expressed, the conjunctiva is wiped with gauze soaked in 1:2000 mercuric bichlorid, 2 or 3 drops instilled, the eyelids closed, and ice compresses then used. The patient is instructed to return the next day, when the lids are opened after a few drops of cocain solution have been instilled, and the eyes irrigated with boric acid solution. The patient returns daily or every other day for conjunctival rubbings with toothpick swabs first dipped in mercuric bichlorid (1:500), then into boric acid powder. Cocain solution is instilled twice prior to each rubbing. A zinc sulphate solution (.25-0.5%) is given to the patient to use at home 3 or 4 times daily.

C. A. Hayes and F. Oldt<sup>21</sup> of Shanghai, China, in the eye department of the Canton Hospital applied the grattage method devised by John McMullen and used in the U. S. Public Health Service in its campaign against trachoma. From the fall of 1921 to November, 1924, 156 patients were treated. Of the successful cases 91% were cured in three weeks. Some of the cases recorded as improved were afterwards found to be cured; most of them had left the hospitals before cure could reasonably be expected. With this treatment there were practically no after effects, the results being much better than cases treated by expression.

Von Gernet<sup>22</sup> of Berlin refers to his own years of experience in trachoma regions. In the thousand of cases he has treated by all methods, including expression and curettage, excision gave the best results, particularly combined excision of the tarsus.

The practical problems involved as studied by Ziegler<sup>23</sup> are to preserve normal tissue by conservative surgery, or, if that fails, to resort to radical surgery. The conservative surgery of trachoma calls for canthotomy and rapid dilation of the duct, combined with galvano-cautery



puncture, Knapp's roller operation and freezing with carbon dioxide show, while galvano-cautery peritomy may be used to relieve pannus. The radical surgery of trachoma requires, in addition, Burow's splitting of the cartilage or Kuhnert-Heisrath's tarsal excision.

May<sup>16</sup> found that milk injections did not cure the disease but ameliorated the acute symptoms and the pain. Stucky<sup>9</sup> regulates the diet and gives large quantities of cod liver oil, believing a deficiency of vitamin exists.

Cases of trachoma were treated by Meerhoff<sup>24</sup> by injection of  $\frac{1}{2}$  cc. of their own serum subcutaneously every 3 or 4 days. The results were especially favorable on corneal lesions and pannus which cleared rapidly after the first few injections.

May<sup>16</sup> performed a series of Wassermann tests on a large group of trachoma cases. In 52 cases, 46 were positive but he believes this proves nothing, as in the types of cases studied one would expect a large per cent to be positive. It indicates, however, the need for systemic treatment in the complications of trachoma such as ulcers, iritis, keratitis and pannus. His Wassermann findings would explain in part why Wiener and Alvis were successful to some extent with their intramuscular injections of mercury salicylate in 5 cases reported recently.

In conclusion the writer wishes to thank Major P. Mossman, surgeon in charge U. S. Public Health Service Station, at Rolla, Mo., for his outline of procedure in treating trachoma, and awaits with interest a tabulated report of results.

If we can but stimulate an interest in the trachoma situation in Southern Illinois, no efforts are ill spent, and all practitioners know that of all afflicted residents of Illinois, none are so in need of (often charitable) medical aid as those suffering with trachoma and its sequelae.

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## INJURIES TO THE MESENTERY.\*

CARL E. BLACK, A. M., M. D., F. A. C. S.

JACKSONVILLE, ILL.

It is my purpose to report briefly an interesting and somewhat unusual case in order to have it on record. While injuries to the mesentery are not uncommon yet when one searches the literature for those similar to this one, few are found. The text-books treat the subject briefly and give few illustrative cases.

In general there are two groups of such injuries. In the first there is simply a rent or a fissure of the mesentery which may be single or multiple.

The importance of such injuries is in proportion to the size of the vessels involved in the injury. In fact such injuries are usually only an accompaniment of other intra-abdominal lesions which give rise to the symptoms calling for exploration. Where such fissures give rise to symptoms sufficiently serious to demand opening the abdomen it is because of hemorrhage from a large loop or from a considerable number of small vessels which have been ruptured. The operative treatment consists in ligating the bleeding vessels and in closing the rent with fine catgut sutures. By using a blunt needle both procedures may be done at the same time.

The anatomy of the blood supply of the mesentery is peculiar. It consists of loops of vessels, both arterial and venous, given off from the main mesenteric vessels. These loops are primary and secondary and occasionally tertiary. That is there are one, two and sometimes three series of vascular loops interposed between the main mesenteric vessel and the terminal vessels which directly supply the gut wall.

There is quite a difference in the number and character of the vascular loops in the different parts. While there are a greater number of

loops there is also much more fatty tissue interposed in the lower portions.

On account of the arrangement of the vascular loops great care must be used in ligating and suturing not to cut off too much blood supply from the intestinal wall. There should be no operative mortality to this class of cases providing the blood supply of the gut is protected and provided there are not complicating injuries to other intra-abdominal viscera.

The second class of injuries to the mesentery is where it is completely separated from the gut or the mesentery crushed and gangrenous but not separated. In these cases the blood supply to the gut wall is cut off without sufficient provision for a collateral supply. Each terminal vessel supplies its own definite area and other terminal vessels give little aid to that area or at least are too small a supply for that aid to extend far. LaJars says that where the surgeon thinks the vitality of the gut will not be impaired it should be watched for a time after the repair is made to make sure that the blood supply is sufficient, before the abdomen is closed.

Few cases of this kind have been reported. LaJars illustrates the injury and mentions two cases.

The only case I found which was of the same character as the one I report was by John F. Erdman of New York (Am. Jr. of the Med. Sci. Vol. CXXXIX p. 980). In his case there were two injuries. One in which the mesentery was crushed and gangrenous but not torn and a second in which the mesentery was separated from the gut. The gut was resected and anastomosis made with the Murphy Button.

Special attention should be called to the cord like constriction of both ends of the contused gut in that portion where the mesentery was only crushed and not detached. I did not notice any such constriction in the case I report.

Where more than three inches of mesentery is separated from the gut the area should be resected and an anastomosis made. I prefer a side union, although an end to end union of the gut may be made. In the side to side anastomosis care must be given to the blood supply. Mesentery should extend completely to the end of each portion. This necessitates a double layer of mesentery which is triangular in shape, which must be carefully folded and tacked down on itself in order that finally a smooth area will

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result. If the mesentery is simply separated from the gut and has no slit or fissure down into its substance it may be folded on itself and tacked down with a few fine catgut sutures. Any raw edges should be covered with peritoneum. Incidentally all bleeding points in the detached mesentery must be ligated or caught by the sutures.

It is rare that a definite diagnosis can be made in these cases prior to opening the abdomen. There will be the symptoms of acute abdomen with the history of trauma. The shock will be in proportion to the amount of hemorrhage and the extent of the accompanying injuries.

Case No. 22697 I. S. Boy aged 15 in perfect health was run over by an automobile, the wheels of which passed over the abdomen at about the umbilicus. There were no marks of importance on any part of the body. The boy was picked up and taken to his family physicians, Drs. Allyn and Allyn of Waverly, Ill. By the time the doctors examined him he was beginning to have severe abdominal pain with rigid abdominal muscles. Recognizing that there was a serious intra-abdominal lesion he was sent to Passavant Hospital where I saw him about four hours after the accident. By this time the abdomen was board like with no point more tender than another. Shock was profound. Examination of urine and blood normal excepting 15,500 leucocytes. Thinking there was probably a ruptured viscus he was sent to the operating room and under gas-oxygen anesthesia the abdomen was opened in the median line. We first encountered free blood. This cleared away and the loops of small intestine examined; beginning at the cecum and going upward. At about the middle of the jejunum a loop was found from which the mesentery was separated for a distance of seven inches. While the intestinal loop showed evidence of contusion it was not perforated. This loop of gut was beginning to show areas which were becoming gangrenous. The vitality of the portion of mesentery involved was not impaired. Eight inches of gut was excised, the ends closed and a side to side anastomosis made. The involved portion of mesentery was folded on itself and held in place by a few catgut sutures.

The position of the loop and the nature of the injury made it appear that the gut was on one side of the spine and the mesentery was caught between the wheel and the spine and in that way crushed off. The gut must have been pushed away by the impact, tearing itself loose from the mesenteric attachment. Only a few tags of mesentery were left attached to the gut.

This case illustrates the dictum that in every case of injury to the abdomen with marked symptoms there should be an exploration. It would be better to explore several abdomens

where no lesion was found than to delay one with a lesion. The prompt recovery of such cases depends on how early it is explored. This case had hardly a serious symptom after the resection and made a prompt and complete recovery.

#### TEACHING CLINIC:

#### BRONCHIAL ASTHMA, PERNICIOUS ANEMIA, UNKNOWN FEVER

KARL KOESSLER, M.D.

CHICAGO

This lady is forty-seven years old. She has had asthma for fifteen years. She has lost weight and has gone from 135 down to 95 pounds.

She has smothering and weak spells, has headaches frequently, and pain under the eyes. Appetite good at times; other times, bad. She feels better when eating more. Occasionally she has pains in the lungs; but when asthma is bad she feels oppressed but has no pain. She is not able to take a deep breath. She has some pain over the heart. She has palpitations and has attacks of dizziness, has sick headache. She sleeps well except for the breathing. She gets up at night and runs to the door to relieve the difficulty in breathing. Complains of pain in the wrist joints and arms. At times she feels as though the hands will drop off.

Fifteen years ago she had influenza and has never been well since that time. The asthma began immediately after this illness.

Thirty-seven years ago she had an abscess opened. Had a dilatation of the uterus when a girl. Nose bone removed last winter. Typhoid at sixteen.

She was tested by Dr. McMichael for tuberculosis some years ago but found negative.

I examined the patient. She is a patient of Dr. Miller. The thing which I wish to add to the history is that we found a blood pressure 220 systolic and 135 diastolic. That, in itself, is a noteworthy finding in asthma, because while it is not the exception, the rule in asthma is that you have low blood pressure in bronchial asthma. In fact, there are three symptoms, which, if together, make a diagnosis certain; but that does not say that if you don't have more

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than one, you can not make a diagnosis of bronchial asthma.

These symptoms are attacks of dyspnea; second, a low blood pressure, usually low, due to capillary relaxation; third, eosinophilia in the blood.

When you find a patient with hypertension at the age of forty-seven, it is wise to make a careful study of the heart and of the blood vessels, to see if you have really to deal with true bronchial asthma.

It is just fifteen years ago that I reported at the Illinois State Medical Society in Springfield on three cases of what I then called egg-asthma. They were some of the first cases. I expounded at that time that asthma is a form of allergy or anaphylaxis. It is of importance that we group these patients into allergic asthma and non-allergic asthma. Subsequently skin tests were developed.

She has on each arm about seventeen tests. In the back, twelve and twelve.

Now, gentlemen, if you do this work, it has to be done completely or it is better not done at all.

If we make use of all the substances which we have at our disposal today as allergens, which are between 300 and 400, there are always more other substances possible to which we are not able to test them, like some individual house dust. But to make any statement regarding an asthma if it is allergic or not by making forty or fifty tests is not justified. You have to exhaust the possibilities and make a real study of the allergic factor of asthma.

If you wish you can simplify this thing by means of group testing, so that we do not have to make so many tests. To make forty or fifty individual tests does not enable you often to make the statement that it is an allergic or an infectious asthma.

In asthma, more than in any other disease, we are extremely anxious to have a history which goes back to infancy. Walker pointed out, very justifiedly, that most of the asthmas which come about in infancy are allergic asthmas. Why? It originates usually from improper weaning of the baby. You very often find that the child is sensitive to those foods which were given in large quantities when the child was taken from the mother's breast. Cow's milk, eggs, cereals, barley, wheat, rice. They are probably the most

common foods to which a child is sensitive. But by no means must you adopt this as true in one hundred per cent of the cases. Very frequently we have an infant or a child of three, four or five years who has not an allergic asthma but in whom asthma dates back to a broncho-pneumonia, which the child had in the first year of its life.

In some way it is not at all excluded that a patient, even with a history of bronchitis for many years, which finally culminates in asthma, an infectious asthma, can not have an allergic asthma. It is not common but it occurs.

Now, what is the lesion in a patient with infections bacterial asthma? Of course, we have to differentiate there between a good many conditions. It is possible that we have a so-called bacterial asthma in which the substance which causes the broncho-spasm is not formed in the bronchi, but is formed actually in some focus of infection.

In a paper my associates and I published recently in the Archives of Internal Medicine, we brought, I believe, experimental proof that a good many bacteria have the faculty of forming in vitro at least substances which, in the experimental animals, will cause bronchial spasm.

Now, what we usually call attacks of asthma in the human is usually bronchial spasm plus exudation, swelling, hyperemia of the mucous membrane.

When we get a history like this lady represents, that she had an attack of influenza and secondary to this influenza her asthma developed, it is very probable that you have to deal with a condition which is very similar to the condition about which Dr. Hedblom just spoke, one of the most frequently associated factors in the pathogenesis of bronchial asthma on a bacterial basis, which led to the injury of the continuity of the mucosa, submucosa, and, even to some extent, to ulcer formation of the bronchi, so that there is a focus from which absorption takes place constantly.

A few years ago Dr. Huber and I published an article on the pathology of asthma, in which we referred to all the cases which had so far been reported in the literature and added six new cases. We found in some cases actually this ulceration of the bronchial mucosa.

Jackson and his associates in Philadelphia had some astounding and excellent results by treat-



ing the ulceration in the mucosa as you would treat an ulcer in the nasal mucosa. When the ulcer is healed the attacks of asthma cease. Unfortunately, when there are many multiple ulcers, the treatment is very difficult.

A few words about non-specific, non-allergic asthma. Etiologically, it is the only chance you have to use vaccines.

Some people will say this is probably un-specific treatment. Even if it is true that autogenous vaccines act unspecifically, since we are not sure of this, why not use those formed from an organism which is cultivated from the patient rather than to use a stock vaccine.

In a study which Dr. Moody and I made about sixteen years ago on the bacteriology of asthma, we pointed out that it is of the utmost importance that the vaccine contain besides the aerobic organisms the anaerobic organism. They break down protein much faster than streptococci and micrococci catarrhalis and the influenza bacilli.

We demand of our vaccine that it contains the chief organism of the aerobic and the anaerobic group.

In the last two years Dr. Maurer and I have used the injection of autogenous vaccines into the skin and not under the skin with very small doses. We believe we obtain much better results with this method than with the subcutaneous method. You have to guard your doses and be very careful not to increase too rapidly.

Outside of the specific autogenous vaccines you have to rely on unspecific treatments to give the patient relief and comfort until you accomplish a permanent benefit, if possible, with your specific treatment.

Just one word in connection with the new drug which we have all heard of, the Chinese drug Ephedrine. Use the hydrochloride and not the sulphate. It is best to use it in solution and not in tablets. Use a three per cent. solution and give the patient from twenty to thirty drops three to four times a day, depending upon the weight of the patient.

Very often the physician, if I may say such a thing, forgets, in the matter of drugs, with the exception of digitalis, where we have learned to think more of the weight of the patient, that weight of the patient has to be considered as much in the human being as in experimental animals.

In the laboratory we always figure out what the dose is per kilogram of weight; in the human we neglect that, we are more inclined to say "Twenty to thirty drops."

Ephedrin is a powerful drug and to a woman who weighs as little as this patient does, about eighty-five pounds, I certainly should not give more than three times a day twenty drops of the three per cent. solution.

The drug is not a substitute for adrenalin. Adrenalin is still the best drug which we have to stop paroxysms of asthma if they are severe. But since this drug (ephedrine) acts by mouth and can be taken in the absence of the physician, it is of great advantage.

There is just one warning I always make when I speak about asthma and I don't want to omit it here. That is, never combine, please, adrenalin with morphin. I have definite evidence that that is a fatal combination. These two drugs must not be combined. Think of the physiological action of them and you know why.

There are two other patients I want to show you. Since it is so late I will spare you the histories. I wish to have you look at the patients. Look at this very excellently nourished, well colored (white) lady. Look at this man. I don't know if you can see the color. But he has pallor. There is a slight cyanotic hue, and he is pale. Both have a form of anemia which is known as Addison's anemia. This lady has been sick for several years. She has followed the high vitamin liver diet since October of last year. She has gained more than forty pounds in weight. Her blood count, September 15, was 1,100,000, and her hemoglobin twenty per cent. Her white corpuscles 3,760. She was placed on the diet in October, and she has on May 4, 100,000 red, 7,050 white, and seventy-two per cent. hemoglobin.

Now, this gentleman. I told him that I would tell him things he must remember. He has an affinity for the chiropractic school of medicine and he has not followed any dietary instruction.

I have seen him only an hour ago for the first time.

Question: What do you have for breakfast,

The Patient: Eggs, breakfast food, a cup of coffee.

Question: What do you have for lunch?

The Patient: Potatoes, gravy. (Liver since a few weeks.)

Question: How often?

The Patient: Three or four times a week.

Question: What do you have for supper?

The Patient: Bread and butter——

Dr. Koessler: You remember what I said yesterday. If you examine the dietary history of the patient with pernicious anemia you find a positive dietary history in eighty per cent. of the case.

The average man or woman, never mind of what class, will not eat a diet which is sufficiently rich in vitamins to balance the blood regeneration properly.

Now, this man eats potatoes and gravy for lunch, and the average strong American man will eat coffee and rolls for breakfast and potatoes, meat and gravy twice a day, if he has a chance, a diet which does not contain sufficient vitamins. It is not a diet which contains sufficient of the substances to produce a normal balance between blood regeneration and blood destruction.

And so the result of this faulty diet is what I showed on the lantern slides yesterday in the experimental animal, an anemia which we call pernicious anemia.

Of course, associated with these things are the changes in the stomach. Both patients have achylia.

Minot and Murphy of Boston have published in August of last year the first report of forty-four cases treated with a diet rich in liver, with most splendid results.

Until three or four weeks ago I believed, on the basis of our experimental work at the University of Chicago and the treatment which we had done of 42 patients thus far, that the results of Minot and Murphy are ascribable to the fat soluble vitamins in the liver because the liver is the chief storage organ of fat soluble vitamins. But that is not the entire truth.

I still maintain that fat soluble vitamins are one of the most important factors, if not the most important factor, in the regeneration of blood in maintaining the balance between blood destruction and blood regeneration, which, as I said yesterday, amounts to about one hundred cubic centimeters daily. And Dr. McCollum of Hopkins is of the same opinion, excepting, how-

ever, that vitamin E in addition to vitamin A, another fat soluble vitamin, might be of primary importance according to him.

But Cohen and Minot have now isolated from the liver a product by chemical methods so that the product does not contain any known vitamins. We, therefore, must say that the liver, this marvelous organ which does so many things, contains something which has a fundamental relation to blood regeneration.

In his first articles Minot advocates a low fat diet. There is no reason for it. Since the fat-soluble vitamins are carried by such foods as butter, cod liver oil, cream and milk, if there is anything to the vitamin theory at all, it would not be wise to give a fat-poor diet.

The experimental evidence for the vitamin theory in pernicious anemia I have shown you yesterday. In our rats where we produced our anemia we used no meat at all. We did not give liver. You saw we produced a picture which is very similar to pernicious anemia. In order to cure the rats, in a good many cases, we feed them high vitamin diet and the blood in their picture comes back to normal.

Where I beg you not to forget the vitamin theory of pernicious anemia is in the feeding of a diet high in vitamin B, because we believe that the lack of vitamin B over a long period of years is related with the spinal cord symptoms of this disease.

As I pointed out, Goldberger has shown that lack of vitamin B is probably the chief cause of pellagra. You cannot distinguish a section of the spinal cord at a certain segment in an advanced case of pellagra from a section taken at the same height, the same segment, of an advanced case of pernicious anemia.

The liver is not rich enough in vitamin B to cover this requirement on B. You have to furnish vitamin B in the form of brewer's yeast and vegetables, which are especially high in vitamin B.

You see here a woman whom nobody today would ever think had pernicious anemia. And you see the man who is following his own idea about diets. He has been misguided. It is entirely up to him. It is not sufficient to eat a little bit of calf's liver two or three times a week to get well; that will not get him well. His is an absolutely inadequate diet.



## PRIVATE PRACTICE IS AT STAKE\*

P. R. BLODGETT, B. S., M. D.

CHICAGO HEIGHTS, ILL.

Mr. President and members of the Physicians' Fellowship Club of Chicago: I consider it a great honor to be asked to come here as your speaker today. I am not an alarmist but there are a great many alarming problems confronting the profession today, the solution of which will determine the future of private practice. The time has come for us to face the facts, make an honest survey of the situation, and set in motion the necessary machinery to correct those economic difficulties. We must work out our own salvation. I am going to be very frank in my discussion of the subject.

Private practice is at stake. Every attack upon the profession has been directed against the practice of medicine by the individual physician. Every piece of legislation directed against the profession has been aimed at the physician in private practice. Against him is aimed the combined forces of corporations practicing medicine. The insidious inroads of organized charity are also being felt by the private practitioner. The practice of medicine, in one guise or another, by the city, county, state, and national governments has affected no field save that of private practice. The green eye of every cultist sees only the patients of the private practitioner. The proposed exploitation of the profession in Chicago, by "Izzy" Braverman and his fellow musketeers, has for its objective the subjugation of private practice to the whims of a few thugs and gun-men. The most unscrupulous, the most malicious, and the most deadly of all attacks against the physician in private practice have been instigated, or personally directed, by traitors within the ranks of organized medicine. Private practice has been, and still is, the target for every shot fired at the profession.

Legislation directed against the profession punches private practice right between the eyes. Let us first consider certain national laws which affect the private practice of medicine. The provisions of the Narcotic Act mitigate against the man in private practice. They circumscribe his rights and then go a step further in compelling him to pay a tax for the privilege of alleviating

human suffering. The stipulations of the Volstead Act, which has done more than any other damning force to substitute license for liberty in this country, provides an army of snoops and spies, sniffers and tasters, agents and business agents, to supervise the sale and distribution of both good whiskey and moonshine, and to levy upon the producer, the middle man and the consumer whenever the opportunity presents itself. This munificent Act of Congress says to the individual physician in private practice: "You may prescribe on an average of one pint of spiritus frumenti a day. You must not prescribe, under any circumstances, more than one pint of this medicine to any individual patient in any ten day period." No restrictions are placed upon the legitimate use of alcohol except in its use by the individual physician for the relief of his patients. We are admonished that the Prohibition Director is a specialist in the medicinal use of alcohol and spirits, and when he speaks it is with the voice of authority of a specialist. He says to you and me that we do not know what to prescribe for the sick man. He does. That's all there is to it. I wonder at times how long it will be before the red eye of some long eared reformer will focus itself upon sodium salicylate, ammonium chloride or neosalvarsan. This law, with the interpretation placed upon it by the director, affects only those men in medicine who are engaged in private practice. The Sheppard-Towner Maternity Act is paternalistic in principle and socialistic in direction. It invades the premises of personal rights, places the birth-room at the mercy of the political boss, and seeks to destroy that confidential relationship existing between the physician and his patient. Laws passed by Congress regulating the activities of the United States Veteran's Bureau have been a most wicked attack against a profession, which in the time of national emergency gave more than any other to the defense of their country. There is provided by this Bureau, for the former members of the service, free medical attention. This Bureau provides free medical and hospital treatment for every ex-service man, it matters not whether the malady was incurred before, during, or since separation from the service. This is a most contemptible piece of political trickery which aims at pauperizing the ex-service man for his

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service to his country. Those former members of the armed forces of this Republic who have been disabled by virtue of that service should be adequately taken care of by the country they fought to defend. All others, if they are financially able to pay, should pay for all medical services rendered them. Insofar as this illegitimate dispensing of charity on the part of the government is concerned, the profession is affected only as it concerns those members in private practice. These national laws have been passed by Congress and then turned over to their respective Bureaus, each one of which makes its own regulations, provides penalties for non-compliance, and enforces them. We have in Washington these various Bureaus, each vying with the others in the unreasonableness of their regulations and in the vindictiveness with which they are enforced.

Almost all states have further augmented the Prohibition Act and the Maternity Act by additional laws; the majority have made their own Acts even more drastic. In many states laws have been passed allowing cultists of every type and description to invade some field of medical practice. In every instance legislative experiments in the field of medicine have affected only the physicians in private practice.

We, in the state of Illinois, have been more fortunate in a great many respects than our confreres in some of the other states. We must not forget in this connection a determined fight directed by the President of the Illinois State Medical Society, the Editor of the ILLINOIS MEDICAL JOURNAL and the Legislative Committee of the Illinois State Medical Society, which defeated legislation intended to saddle the Shepard-Towner Maternity Act upon the people of Illinois. The same men who so successfully defeated that paternalistic measure have rendered heroic service to the profession in securing the passage of The Medical Practice Act of the State of Illinois and in stopping adverse legislation in our state legislature. These real soldiers are entitled to the "Distinguished Service Cross" of the profession. The profession in Illinois has been blessed with a determined band of warriors who have unflinchingly carried the fight for justice in the law for the physicians in private practice.

Lay corporations practicing medicine have become vicious enemies of private practice. We have lay corporations who have taken over the practice of medicine insofar as it pertains to their employees. In some of these companies we find that every employee has a certain amount of money deducted from his pay to provide the funds necessary, the well man is compelled by this system to care for the sick. In other companies the employees are underpaid and are then "kidded" into believing that they are getting something for nothing in the form of "free" medical services. In either case the employees all pay, there is no question about that. If a spirit of fairness were present in these industries, the employees would be paid what they earn and allowed to go to their private physicians when in need of professional attention. In this same classification we have the situation as it occurs in many of our colleges and universities where an additional charge is added to the fees paid by the student body; here again we have the healthy being compelled to provide for the care of the sick. The students in these institutions are also being deprived of the right to go where they please should they require the services of a physician. Private practitioners are the only physicians affected by this arrangement.

We have other lay corporations organized for the express purpose of practicing medicine. The most notorious example of this group is the Public Health Institute. In its unethical conduct of practice, in the extent of its advertising to the laity, and in its cash returns the Public Health Institute makes the quack specialists of other days look like a bunch of pikers. No other quack institution ever spent money so lavishly for printer's ink. We find page advertisements appearing in the great daily newspapers of Chicago. An appeal is made to all who frequent the toilets in public buildings, in railway stations, in office buildings, and where not, where the printed notice of the wonderful achievements of the Public Health Institute has replaced advertisements for those old home remedies, OKey Specific and Knox-It. Up until this time we have been given to understand that the profession could do nothing as far as this monument to quackery was concerned. I know that companionate marriages are quite the thing today,



but I have not been able to convince myself that the solution of the problem of the Public Health Institute lies in a trial marriage between it and the Chicago Medical Society. The Public Health Institute has done everything possible to prostitute the practice of medicine.

Charity organizations, with that insatiable desire to pauperize everyone who comes within the pale of their influence, constitute a distinct menace to private practice. We have as a profession seen charity organize and we have seen organized charity grow rich in influence, in power, and in financial resources. These organizations have done some legitimate work. The attitude taken by most, if not all, charity organizations is that even though one is able to live in moderately comfortable circumstances he is still an object of charity as far as medical services are concerned. They seem to feel that disease and accident are conditions over which the individual has no control and that he should not be called upon to pay for medical treatment. Charity clinics are being maintained not for the poor but for all who come. The profession has always maintained the attitude that the person entitled to medical charity was the one who was an object of charity in other respects. This is fair. The deserving poor have always received consideration at the hands of the profession. We have always taken care of the sick in need, this is one of the heritages of the profession and we accept it as such. We do feel, however, that that type of charity which pauperizes the individual is a bad thing for society. The individual who is able to take care of himself should do so; he should pay his physician as well as his grocer. Rich organized charity is breathing its venomous breath into our communities and is casting its blight upon private practice.

The practice of medicine by the city, county, state and national governments in many instances operates to the detriment of private practice. At the present time we have a serious growing menace to private practice in the ever increasing activities of the Cook County Board in the enlargement of their public charity work. These activities are under the direction of Dr. Herbert L. Wright, of Berwyn, who hasn't a license to practice medicine in the State of Illinois. We have doctors doing public health work for the State of Illinois, for various cities and

counties throughout the State of Illinois, who are not licensed to practice medicine in this state. All such "Doctors," practicing medicine in one phase or another, who are pursuing their professional work without the formality of license to practice medicine, constitute a very serious menace to private practice. I have never been able to determine just why physicians in many public positions should not be required to qualify for professional practice in the state in which they are carrying on professional work. This is a question upon which the profession must demand an answer. There is always an effort being made by the majority of public health officials to bite into what belongs to the man in private practice.

In too many instances, the dispensaries and hospitals of our medical schools constitute a distinct menace to private practice. It is well for us to keep in mind the fact that the great majority of the members of the profession are in private practice, these physicians are not dependent upon faculty positions to furnish them, directly or indirectly, with a livelihood. These men, for some considerable distance from our teaching centers, are compelled to compete with the medical schools. Here we have medical institutions eagerly vying with one another in building up large charity or semi-charity clinics, some making no charge, others having a small clinic fee, less in every instance than that which would be charged by the private physician, and none of them making any particular effort to care only for deserving charity. I am not unmindful of the fact that our teaching centers have contributed a great deal to the present high standards of the profession, yet they have done this with one hand clean and the other one dirty, they have educated the neophyte on one hand and have robbed the graduate of his patients on the other. There is enough legitimate charity in Cook County to furnish all the clinical material necessary for the Chicago medical schools, the rest belongs to the physicians in private practice. The value of the medical school to society is measured in terms of the ability of its graduates to practice good medicine. The medical school is primarily a teaching institution and not a dispenser of charity, its job is to graduate good doctors and not to pauperize any community. Our medical schools have lost their professional direc-

tion. We have today lay direction of medical education. Our medical schools must come back to direction by the profession. Our medical schools must appreciate again that they are a part of the profession and have definite obligations to it; they must be brought to face the fact that their greatest good to both the profession and to society can only come through private practitioners; they must be made to appreciate the fact that they have no place in the profession as corporations practicing medicine.

The exterior of the Chicago Physicians and Surgeons Economic League has all the vicious characteristics of a "racketeer" movement. These racketeers, having been appraised of our economic difficulties, see here an opportunity to capitalize the unrest within the profession and, under the guise of relieving the situation, to rob the physicians.

There is a reason for everything. There is a *raison d'être* for this league. Irrespective of what may be said, there is a great deal more to this than "Izzy" Braverman and his fellow racketeers. Behind the curtain is a problem which reaches deep into the practice of medicine. It is found in the failure of organized medicine to adequately handle its economic affairs. The spirit behind this movement lies in the profession itself. The rank and file of the members of organized medicine have been "kidded" long enough, they have suffered too long from the indifference of their medical societies to this phase of the practice of medicine. This is a movement for relief from some of the unbearable circumstances which are drawing the rope tighter and tighter around private practice. In the body-politic relief for the masses seldom, if ever, comes from the top. It has long appeared as though this were true in organized medicine. This movement is the voice of protest. It must be heard.

The most vicious enemies of private practice are rascals within our own ranks. Every attack upon the profession finds intimately identified with it prominent members of our medical societies. When the Sheppard-Towner Maternity Bill was before our State Legislature, many of our so-called "leaders," coddled by professional lobbyists and welfare workers, spent more time and effort to secure the passage of this nefarious measure than they ever did for the enactment of

legislation fair to medicine. These men addressed Women's Clubs and civic organizations to enlist their support against the profession. They went to Springfield as a part of a lay lobby to impress upon our State Legislature the necessity of passing measures in keeping with the spirit of the Sheppard-Towner Maternity Act. They are members in good standing of our medical societies. Many of these same men have since become officers in several professional societies.

On February 14, 1927, Arthur Dean Bevan, by his own admission a smart fellow, a "professor" Doctor, and a moral censor, under the latitude offered in the subject which he chose, prepared a paper which he read before the Annual Congress of Medical Education, Medical Licensure and Hospital, entitled "The Need of Teaching Medical Ethics." In Dr. Bevan there is a shining example of that class of "Holier Than Thou" self-styled "Professors" and "Leaders" of the profession, who are continually on the alert to parade themselves in an atmosphere of self satisfaction, who continually seek to impress the profession and the laity with a conceited sort of superiority-complex which no one is as cognizant of as are those principles themselves, that type of "specialists" whose feeling toward the general practitioner is measured in direct terms of the other man's inclination to send them referred work. Under the guise of expounding "The Need of Medical Ethics," the eminent surgeon, addressing a mixed audience of physicians and laymen, took advantage of his time and of his position to conduct a tirade against the profession which had honored him more than he deserved. Those assembled at that meeting were informed that the profession was in danger of being over-run with pick-pockets and bootleggers. Prior to the meeting, the "Professor" had provided newspaper reporters with copies of his address. In the *Chicago Tribune*, on the morning of the meeting, appeared an article in bold, black type telling the world that physicians were a band of thieves and a gang of bootleggers according to that eminent authority, Dr. Arthur Dean Bevan. In the transcript of the article which appeared in the February 26, 1927, issue of the *Journal A. M. A.*, the Editor had thoughtfully deleted those crucifying paragraphs. It was too late, however, for that pub-



licity hound had burned his bridges behind him. He admitted that he was the mouthpiece of authority of the American Medical Association and he wanted everyone to know it. He was uneasy until he saw his indictment of the profession published in the lay press. After reading the Doctor's article in the *Chicago Tribune*, and the revised edition of it in the *Journal A. M. A.*, I could not but agree with Dr. Bevan that there was a "Need of Teaching Medical Ethics." I was convinced, however, that the greatest need for such instructions was in the ranks of the faculties of our medical schools.

Still more recently we have had occasions to read articles in the lay press from the mouths of other medical "patriarchs" condemning the piratical practices of physicians in robbing their victims through the medium of exorbitant fees, and upbraiding them for being derelict in their duties. It has become entirely too popular a pastime for "prominent" men within the profession to berate and to belittle the efforts of more ethical physicians.

Gentlemen, we have men, elevated on the shoulders of their fellow physicians to high positions in the profession, who use that position to malign and belittle the work of those who had faith in them. We have men who publish to the laity the inference that the Doctors are a bunch of bootleggers and only they are righteous. The laity has been told ad nauseam, that the Doctor is a dispenser of charity and a damned poor business man. The public has been given to understand that every Doctor is a year-round Santa Claus, that his fee is always exorbitant, and that it is a matter of little consequence whether he is paid or not. These indictments and statements, which make the physician the subject of ridicule, have come in too many instances from men within our own ranks who sit pretty close to the top of the ladder, men, who in their scheme of self-aggrandizement, have lost sight of the fact that it is the profession which has given them their identity. Gentlemen, it is about time that we kicked the stool from under men of this type and made them appreciate that it is the profession, not the individual, which is great.

There has never been a nation, a cause, a profession, or an organization worth-while but what has had conflicts of opinion which have moulded its life and pointed its direction. These conflicts

have been necessary for it to keep alive and to carry-on in the mission before it. History is a record of conflicts. Wherever there are active minds there must be differences of opinion. The history of this nation and of every nation, the history of this profession and of every profession, the history of every great cause is but the recording of its victories and its defeats. Whether it be on the field of battle, or in the debates on the floors of our legislative bodies, or in the effort to develop industry, or in the struggle to develop or reclaim national resources, or in the ever present turmoil between capital and labor, or in our own contest between life and disease, there is always the conflict of opposing forces. Where there are no conflicts an organization or a cause becomes impotent, it degenerates to the point where it is sexless and spineless, and, if it does not die, it exists only as the vassal of a more powerful force. Conflicts are the signs of activity and of virility. We need more conflicts in medicine in order that we may keep our feet on the ground and go forward in economic as well as scientific phases of practice.

I am glad that the Economic League appeared upon the horizon just when it did. A few years from now, at the rate we have been drifting, such an attack would be more formidable. I am glad that the directing genius is a notorious gangster; I am glad of his associates in other fields of endeavor. With such a sire this movement is destined to be short lived among men who work with their brains. We need a great many changes in medicine, these must come from within the profession and not at the instigation of a gang of hoodlums seeking to exploit the profession.

It sometimes requires a national crisis to unify a people. This may come in the nature of a great catastrophe or a war upon a common enemy. Just this situation faces the profession in Cook County today. We see here the profession battling against a most vicious enemy. When the smoke clears away, I pray that we will find a unified profession with a new spirit, possessed of that type of morale that is comparable only to the esprit de corps of a conquering army. "Izzy" Braverman has rendered a great service, he has brought us together. Let us direct the force and the militant determination of the aroused

profession to the handling of our economic problems.

I trust that we are approaching the dawn of a new day in the profession, the awakening of a dynamic force in medicine. We have stayed upon the defense until we have become the jest of the clown, the object of attack by every fake healer, the butt of legislative experiments, and now the proposed subject of exploitation by a band of gangsters. One of Napoleon's maxims of war was this, "A defense to be successful must be successful at all points. An offense to be successful need only be successful at one point." Many are the blows which have fallen upon the profession; in some instances no resistance was offered, in others the blows have been parried. Times without number we have been sold out by those who should have been the first to come to the defense of their profession; not all of our enemies have been from without. From all these attacks the profession has suffered. The incarnation of the profession stands there with torn sides and bleeding hands looking to us to defend Her. I know that in Her hours of supplication She must have offered up such a prayer as this, "God give the profession men; men who are masculine; men who have a spine; men in whose vascular systems flow an abundance of fighting corpuscles; men who are fearless and unafraid; men in whose hearts there is a fidelity to their profession which is akin to patriotism for one's country; men in whose souls are indelibly stamped the principles of service to the profession; men whose hearts are attuned to the problems of the average man in private practice." I believe that this prayer has been answered. I believe that the time is not far distant when our medical societies will physic themselves of those rascals within their own ranks, who, using membership as the cloak of professional respectability to cover up their underhanded tactics, have prostituted the profession for their own personal gain. Their professional standing has given these men their reputation, without it their status would be entirely different. We have men who must maintain their membership in organized medicine to keep up their inflated fronts, deprive them of that and they become at once more ordinary. I believe that the day is not so far away when the Chicago

Medical Society will say to some of its members, "Get off the staff of that charity organization or get out of organized medicine"; it will say to certain other members, "Get off the faculty of that medical school or get out of organized medicine"; and it will say to a few others, "For that smart aleck bit of personal publicity attacking the profession which you had inserted in the lay press, you are expelled from membership." Then and not until then, will membership mean what it should mean. We must set our house in order. Then take the field against these enemies of private practice. We must carry the fight to the enemy.

We must change our source of timber for leadership in the profession. In the past we have spent entirely too much time delving about in the catacombs of the pseudo-aristocracy of the profession, and rescuing therefrom for the presidency of a medical society, or for the chairmanship of an important committee, a professional has-been whose greatest attainment is to occupy a prominent position and preen himself in an air of self-content. We will find our professional societies of the future directed by men whose hearts are attuned to the problems of the average man in practice, whose efforts for the common good of the profession will supplant personal ambition. The ultimate criterion for leadership must be, not what are a man's contributions to the literature but *How Does He Stand on the Problems of the Average Man in Practice?* It may be possible in some instances to find men in whom both of these attributes are present, but the leader of the future must be he who looks upon his position as an opportunity to be of service to the entire profession.

The enemies of private practice are active; they do not sleep. These attacks upon medicine, some of them very insidious, are a challenge to the loyalty every physician should have to his profession. Gentlemen, will you accept that challenge? The time is ripe, yes, rotten ripe, for a change in attitude on the part of our Medical Societies toward the economic problems of private practice. *We Must Go Forward in Our Scientific Endeavors, and at the Same Time Temper Altruism With Economic Salvation.* We must save private practice for the physicians of the future in order that American Medicine shall continue to maintain its place in the Sun.



## THE COMPLICATIONS OF THYROIDECTOMY

H. HOYT COX, M. D., F. A. C. S.

CHICAGO

The treatment of exophthalmic goiter, or better thyrotoxicosis, which term will include both the true exophthalmic and the toxic adenoma, has become pretty well standardized within the last two years due to the admirable work of Crile,<sup>1</sup> Mayo,<sup>2</sup> Lahey,<sup>3</sup> Graham,<sup>4</sup> Richter<sup>5</sup> and others.

It is fairly well agreed at the present time that the proper treatment is thyroidectomy as soon after diagnosis as the condition of the patient will permit. It would, however, appear from the statistics of Crile, Lahey, Mayos, Richter, etc., that a thyroidectomy is a very simple operation with an attending mortality from .5% to 2.2% including all patients brought to operation. These brilliant results as undoubtedly true in the hands of the men above mentioned, but we must remember that there are many thyroidectomies performed daily by men who of necessity have not the same skill. The general mortality if it were possible to estimate would probably be much higher.

Little is written regarding the dangers and pitfalls which confront the surgeon on all sides both during the operation and after. If there is any surgical procedure that requires a thorough knowledge of anatomy it is a thyroidectomy. Unfortunately, the science of anatomy appears to be a lost art today. The leading medical colleges have a tendency to skim over it superficially although the European schools emphasize anatomy much more than we do here in America. A brief review of the essential surgical anatomy of the thyroid will enable us to appreciate the dangers and complications which may arise during a thyroidectomy.

The thyroid gland is a highly vascular organ situated at the front and sides of the neck and consists of a right and left lobe connected across the middle line by a narrow portion called the isthmus. Normally it lies over second, third and fourth tracheal rings.

The lateral lobes lie under the sternohyoid and sternothyroid muscles and descend to the level of the sixth ring of the trachea. The inferior constrictor of the pharynx is beneath the gland. The thyroid gland is enveloped by the pre-

tracheal fascia, and also possesses a capsule of its own. This fascia envelops the gland and its capsule, and from its posterior surface a layer is prolonged down onto the trachea which envelops the vessels coming to and leaving the gland.

The lateral surface is covered by skin, superficial and deep fascia, sternocleidomastoid muscle, superior belly of the omohyoid, sternohyoid and sternothyroid, beneath which lies the pretracheal fascia which encapsulates the gland. The great vessels and vagus nerve lie to the lateral side. The recurrent laryngeal nerve is in close relationship with the posterior capsule as it courses upward in the groove between the esophagus and trachea.

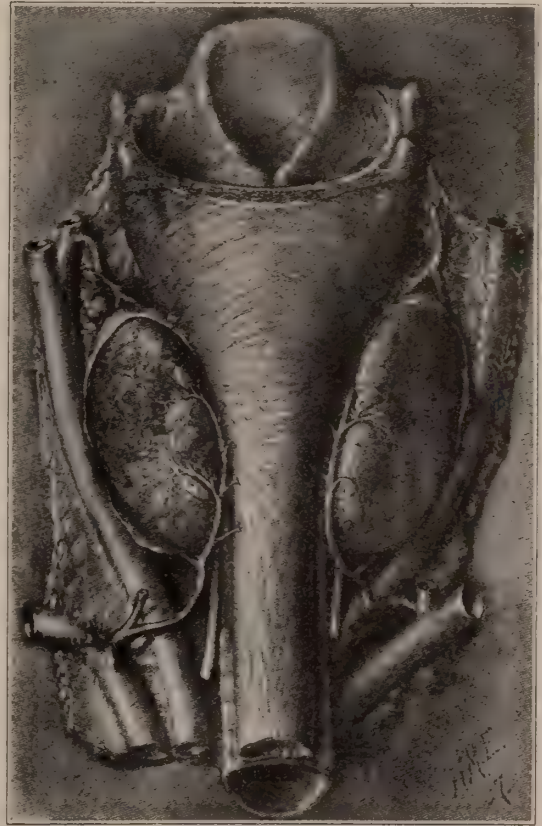


Fig. 1. Thyroids and parathyroids seen from behind.

The deep or medial surface is moulded over the underlying structures which are the thyroid and cricoid cartilages, the trachea, the constrictor pharyngis inferior and posterior part of the cricothyroideus and esophagus, the superior and inferior thyroid arteries and recurrent laryngeal nerves.

A third lobe, called the pyramidal lobe, fre-

quently arises from the upper part of the isthmus or from the adjacent portion of either lobe and ascends to the hyoid bone. The isthmus of the thyroid gland is developed from a diverticulum from the ventral wall of the pharynx in the embryo. The foramen cecum of the tongue is where the diverticulum grew out from the pharynx. From this foramen, a duct called the thyroglossal duct may be found leading to accessory gland masses about the hyoid bone. Cysts may occur in this duct simulating goiter.

The arteries of the thyroid gland are the superior and inferior thyroids and sometimes the thyroid ima. The superior thyroid is the first branch of the external carotid and comes off just above the bifurcation. It ascends first and then runs inward, forward and downward onto the anterior surface of the upper pole.

The inferior thyroid artery, a branch of the thyroid axis crosses behind the common carotid artery and internal jugular vein about the level of the seventh cervical vertebra and enters the gland from the side. It is usually in front of the recurrent laryngeal nerve.

The thyroid ima enters the gland from below and comes up on the trachea to the isthmus from the innominate artery. This vessel is only present in about one-third of the cases.

The veins are in three sets; the superior, middle and inferior. The superior and middle veins pass outward to empty into the internal jugular. Accessory veins go to the jugular, subclavian or innominates. The inferior thyroid vein passes down in front of the trachea to empty into the innominate vein. There are usually two parathyroid bodies on each side about the size of a grain of wheat, the superior and the inferior. They are small brown bodies lying in the meshes of loose connective tissue forming the outer capsule of the gland. The superior parathyroids are usually found at the junction of the middle and upper thirds of the posterior edge of the thyroid gland opposite the cricoid cartilage. The inferior is near the lower pole, near the point of entry of the inferior thyroid artery.

Practical application of the surgical anatomy is evident as we consider the various complications that may arise during a thyroidectomy. Hemorrhage is probably the most frequent accident encountered during operation, the degree depending upon the skill of the operator and the

type of operation performed. A common cause of hemorrhage is the slipping of a ligature from the superior pole. This can usually be avoided by anchoring the ligature with a needle thus making a suture ligature. This procedure is advisable especially when catgut is used. If a free tie is desired silk is to be preferred as it is not as likely to slip as catgut. The pole should be thoroughly isolated before ligatures are applied. Annoying bleeding may be had due to the rupture or cutting of the middle thyroid vein which leaves the gland from the lateral border and is large and thin walled. This vein should be clamped and ligated first in order to obviate the danger of hemorrhage. Probably the most common source of bleeding comes from the inferior thyroid artery which is a large and rather short vessel, entering the gland from the side. Sometimes the vessel is not easy to find and may be cut before being recognized. Retraction may occur and the field become filled with blood. It is during such a mishap that injury to the recurrent laryngeal nerve may occur due to promiscuous clamping in an effort to secure the artery. The best way is to make temporary pressure with a sponge in order to secure a dry field, then suddenly release the sponge and the spurting vessel can be seen and clamped individually. A suture ligature or a free tie is then made. Hemorrhage may also be encountered during the delivery of a substernal lobe, the tension and pulling incident to the delivery causing the rupture of thin walled veins. This complication can be avoided by first grasping the vessels and also by first separating the upper attachment of the lobe, thus allowing it to rise easily with a slight pull from above. If local anesthesia is used, having the patient cough will sometimes aid in the delivery of a substernal lobe. Secondary hemorrhage can be prevented in most cases by securing absolute hemostasis before closure. If a tendency to ooze is observed, it is wise to insert a little narrow gauze packing. Two small cigarette drains brought out on the lateral side of the superficial strap muscles will aid in draining the blood through the dressings and thus warn the nurses and internes of hemorrhage, whereas if the wound is sutured tightly, the hemorrhage might be allowed to go unnoticed until a large amount of blood collects in the tissues. Controlling secondary hemorrhage



after a thyroidectomy is a dreaded experience not to be desired.

Probably after hemorrhage, injury to the recurrent laryngeal nerve is the most frequent complication. In a series of 100 cases, Richter<sup>3</sup> notes that "Temporary injury probably due to dragging on or pinching the nerve has occurred a number of times, usually clearing within from one to three months, and leaving no after-effect."

The recurrent laryngeal nerve has no relation with the upper part of the thyroid lobe, and if the surgical capsule is consistently pressed away from it in a downward and backward direction in the direction of the esophagus the nerve will be peeled off and away from the goiter along with the other structures connected with the posterior capsule. It has only been within the last few years when the importance of removing most of the gland has been appreciated that injuries to the recurrent laryngeal nerve have become so frequent. The point of greatest danger is where the nerve lies closest to the gland, that is near the point of entrance of the inferior thyroid vessels. At this point and for a variable distance above it the nerve is in intimate relationship with the posterior capsule, and by tugging, tearing, deep clamping, etc., one can easily injure the nerve. As this unfortunate complication usually occurs during active bleeding from the inferior thyroid vessels during attempts to clamp the bleeding vessel, it is obvious that isolation and ligation of the vessels before or just after their entrance into the gland will tend to prevent this type of injury. In our zeal to remove the greater part of the gland it is easy to expose the nerves which later may become involved in the scar tissue and produce hoarseness. Actual cutting of the recurrent laryngeal nerve is inexcusable if proper precautions are observed in leaving the posterior capsule. Many surgeons (Crile,<sup>1</sup> Lahey,<sup>2</sup> Richter<sup>3</sup>) leave a thin portion or strip of thyroid tissue directly above the region of the inferior laryngeal nerve and thus not only prevent involvement of the nerve but preserve the parathyroids as well. This procedure is to be advised but care must be exercised not to leave too much glandular tissue as recurrences are common with marked regeneration of thyroid tissue. Recurrences are directly proportional to the amount of thyroid tissue left (Richter<sup>3</sup>) and care must be exercised to remove

all but a thin layer of each lobe next to the posterior capsule on either side of the trachea.

If local anesthesia alone or combined with nitrous oxide and oxygen analgesia, after the method of Crile, is used it is possible by having the patient talk, while working near the lower pole, to recognize the proximity of the nerve by a change of voice, and thus obviate serious injury to the nerve. If traumatized, respirations will become stertorous with a slight inspiratory crow, which may persist for a variable time after awakening. Usually, however, if the offending forceps or ligature is removed the breathing returns to normal within a few minutes. However, if the nerve has been severely traumatized, aphonia or hoarseness will be noted, which condition will persist for several weeks. If the nerve is caught in the scar during the healing process hoarseness may develop several days or weeks later and may persist for months or even become permanent. According to Pemberton<sup>5</sup> the most common site of injury to the nerve is not posterior to the capsule, but in the groove between the mesial surface of the resected lobe and the lateral wall of the trachea. If the nerve is cut the hoarseness may be permanent.

Possibly the next most serious danger to be avoided is collapse of the trachea, with interference with respiratory exchange. The cause of this condition may be due to the support of a thin walled trachea being suddenly removed during a thyroidectomy, or the sudden straightening of an angulated or compressed trachea after the removal of an adherent lobe. Usually the cause is obscure, the collapse occurring during the course of the operation. Rotation with compression of the trachea is likely to occur in the elevation of the lobe in recurrent goiter unless the gland has been freed from the front of the trachea. In such cases the lobe is attached to the trachea by firm adhesions and failure to free these before attempting to elevate the lobe may result in partial or complete collapse of the trachea. In such cases immediate administration of oxygen under pressure will overcome the condition as a rule (Crile<sup>7</sup>). The anesthetist should be prepared at all times to give the patient oxygen under positive pressure should a collapse of the trachea develop. If this procedure does not completely relieve the condition a tracheotomy should be done at once. The tracheotomy tube should be of sufficient length to

overcome the collapse which may be some distance from the thyroid cartilage. A collapsed trachea once seen will never be forgotten. A loud inspiratory crow is heard which persists until relief is instituted. If proper measures are not given, fatigue and cyanosis soon develop and a fatal termination is inevitable. It is far better to do a tracheotomy early, than late. A transverse small opening should be made between the rings and as soon as the obstruction is removed, the trachea may be closed.

Another common complication incident to thyroid surgery is tetany due to injury or removal of the parathyroid bodies. This condition is brought about most commonly by removal of the parathyroid tissue at the time of the operation. However, trauma, or subsequent interference with their blood supply by edema or contraction of the scar tissue in the field of operation will also produce a latent tetany (Richter<sup>7</sup>).

Parathyroid tetany can be avoided by leaving the posterior capsule of the thyroid gland and in addition a thin layer of thyroid tissue covering it. According to Richter<sup>8</sup> in spite of the greatest care, injury to the parathyroids may occur during thyroidectomies because of the variation in the number and location of the glandules.

Halstead<sup>9</sup> in 1907 described a method of avoiding injury to the parathyroid glands, by lifting the gland and ligating the vessels within the capsule drawing the lobe towards the opposite side.

According to Richter<sup>7</sup> parathyroid damage occurs much more frequently than is usually supposed after goiter operations. In his series it was demonstrated in 14% of the cases. Most of his cases were latent with very mild symptoms which were transient.

The onset of symptoms may occur at any time between six hours and three or four months after operation. If the symptoms appear within six to twenty-four hours after operation it is usually due to the operative removal of the major part of the parathyroid bodies or to a marked interference with their blood supply.

If the tetany appears later, that is, after forty-eight hours it is usually due to edema of the surrounding tissues. When delayed until three or four months after a thyroidectomy it is due to interference with the blood supply of the parathyroids by contraction of scar tissue.

The first symptoms are circumoral pallor, and tight glossy skin, parasthesia, numbness, tingling in the extremities, a drawing sensation about the mouth and nose. Trousseau's sign which is a spasm of the hand or foot when compression is applied to the arms or legs, is usually present. Chvostek's sign which is a spasm of the muscles of the side of the face caused by tapping over the facial nerve, is quite constant in parathyroid injuries and appears early as a rule.

Spasms of the hands and feet occur in severe cases and are sometimes preceded by a slight stridor or crow, which seems to be due to some difficulty of breathing.

The treatment depends upon the degree of parathyroid deficiency. Mild cases unless carefully looked for will escape unnoticed. If serious injury has not occurred the symptoms will soon disappear as the body adapts itself to the loss of parathyroid secretion. However, it is wise, as soon as the first symptoms manifest themselves to begin active treatment. Thyroid extract seems to be of value and should be given in 2 gr. doses twice daily. Parathyroid is recommended by Crile, in  $\frac{1}{2}$  gr. doses three times a day. Richter<sup>7</sup> uses Collips Parathormone in extreme cases with excellent results and has discarded all other forms of parathyroid treatment.

Calcium lactate is the most reliable drug we have and when given in 20 grain doses every four hours usually produces marked improvement. If tingling is present the calcium lactate can be increased as high as 40 grains every four hours. Fluids should be pushed, and if the spasms become alarming, morphin in  $\frac{1}{2}$  grain doses should be given, 25% magnesium sulphate can be given hypodermically 20cc every five or six hours for three or four days (Crile<sup>10</sup>) if necessary to control the spasms. After they are controlled calcium lactate should be continued as long as any symptoms persist.

It would appear from the above formidable array of complications and dangers incident to a thyroidectomy that the operation is one associated with the gravest danger, which should only be considered where the indications are extreme. Nothing could be further from the truth, as a thyroidectomy today should be one of our safest operations. However, it is only through appreciation of the dangers which may possibly arise and the manner of their avoidance, or



prompt treatment that we will be able to keep the mortality down to its present low figure or further reduce it.

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## IMPORTANCE IN RECOGNITION OF EARLY PEPTIC ULCER\*

LOWELL D. SNORF, M.D.

CHICAGO

*Introduction.* To anyone coming in contact with a large number of gastro-intestinal cases it must indeed be a source of disappointment to see the many people so poorly diagnosed and inadequately treated. This is especially true among the patients suffering from peptic ulcer, either gastric or duodenal. This, I am sure, is due almost entirely to the lack of proper appreciation of the possible pathology, to the lack of proper evaluation of the diagnostic methods, or as it too frequently seems, simply to an indifference to anyone who complains of that vague, but frequently employed term, "Indigestion."

An affiliation with any large clinic, hospital or out-patient department will at once make apparent the great number of such gastro-intestinal derelicts and force upon us the question of the why and wherefore. No one as yet has presented a satisfactory explanation of the cause of the chronic ulcer and until such etiology is established it is likely that no specific therapy will be evolved. It would seem rational, therefore, to assume that if the ulcer could be recognized in its incipency something might be accomplished in the way of preventive and active treatment which would, to some extent, lessen the great number of chronic ulcers.

The recognition of the duodenal or gastric ulcer with any certainty has come only in the last twenty-five years. It is interesting, however, to note that John Abercrombie in 1830 reported several cases of duodenal ulcer and remarked: "The leading peculiarity of disease of the duodenum, so far as we are at present acquainted with it, seems to be that the food is taken with relish, and the first stage of digestion is not passing out of the stomach in from two to four hours." Bucquoy in 1887 was apparently the first after Abercrombie to suggest the possibility of a diagnosis being made during the life of the patient, and it is only within recent years that anything like a general understanding has come in the diagnosis. Since the publication of the papers by Moynihan in 1905 and W. J. Mayo in 1908 and the splendid observations and teachings of the late Dr. B. W. Sippy and others, it has gradually been recognized that the ulcer is much more common than was formerly supposed, that it can be recognized clinically and diagnosed with a greater degree of accuracy. This advance has been due to the surgeon, the advent of the x-ray in diagnosis and to a more careful clinical interpretation brought about by the cooperation of the surgeon, the internist and general practitioner.

Most writers on this subject have been concerned with the chronic ulceration, pointing out the essential differences between the acute and chronic ulcers. They are different but the thing I would like to make clear is that the chronic ulcer had a beginning, that it was not always chronic, although it may always have had present that which would make it chronic instead of acute. The term chronic has been so instilled into our minds that we too often insist upon the chronicity and periodicity being present before we are willing to consider a diagnosis of peptic ulcer.

*Pathology.* Acute ulcers following infections or passive hyperemia or other causes tend to heal rapidly and leave no serious after effects. Ulcers may occur from certain chemical poisoning and even serious hemorrhage result, yet the lesion be only microscopic in size. These often heal readily.

Our knowledge of the pathological picture of the early ulcer has been much advanced by the relative increase of material obtained from the surgical clinics doing more radical gastric resec-

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tion. Moynihan says that up to 1911 he had operated upon but one duodenal ulcer during or just after the first attack. This was an erosion of the mucosa and submucosa without infiltration of the surrounding tissue. Interestingly enough, this patient presented a "typical ulcer syndrome." The early ulcer varies in size from a microscopic erosion to that of a centimeter or more in diameter. It may be shallow and without induration or it may appear punched out, in either event often surrounded by a healthy mucous membrane. These are the types of ulcers which have produced the ulcer syndrome and which cannot be demonstrated at the operating table. There is little or no induration present and consequently cannot be palpated by the surgeon; in fact, may not be revealed by the x-ray.

Karsner finds a fairly widespread acute gastritis, which may be superimposed on a chronic gastritis. Hemorrhage is frequent in the exudate of the earlier ulcers and may occur in other places in the mucosa and submucosa. Chronic gastritis is a common but not constant accompaniment. The early ulcers as described above may be multiple as in the chronic type.

Judd had described a somewhat similar pathology in his cases of duodenitis. MacCarty says in discussing duodenitis that the external appearance of the scrota is indistinguishable from that seen in association with small ulcers. The chief difference between the chronic and the acute ulcer is the thickening of the mucous coat. The piling up of connective tissue at the edges with funnel-shaped crater, associated more or less with complications of varying types constitutes the chief points of pathology in the chronic ulcer.

There is only a relative difference between the acute or early and the chronic ulcer. Many ulcers heal, as evidenced by scars in the stomach and duodenum, but undoubtedly a definite number of the acute ulcers, by reason of certain influences, becomes the chronic indurative type.

*Etiology.* Casual mention is here made of the etiology of the peptic ulcer only as it will bear on the subsequent management of the patient.

No one cause may be considered as wholly responsible for ulcerations in the stomach and duodenum. Two chief predisposing factors seem to be worthy of mention, the disturbances of the sympathetic nervous system resulting in spasm of blood vessels and local muscles, and some pecu-

liarity in the blood vessel distribution to the stomach and duodenum. Some writers believe that the weight of the stomach as it is suspended at the duodenum also has an influence upon the frequent ulceration of this organ.

Rosenow has found streptococci predominating in a large proportion of duodenal ulcers examined and was able to produce the lesion in animals. Recently Rivers has been able to produce hemorrhagic ulcers in a similar manner. Trauma must be considered as a definite factor. The ulcer in the antrum is being constantly injured by the food and secretion as it is forced against the pylorus. This same factor plus that of spasm is also present in the duodenum.

The digestive action of the acid gastric juice, added to a continuation of infection or a poor local blood supply from endarteritis or thrombosis will tend to produce a chronic ulcer out of an acute lesion. Early ulcers in the region of the antrum are, by reason of their location, unfavorably situated for healing because of constant irritation from both food and gastric juice.

*Symptoms and Diagnosis.* The very first symptom of a peptic ulcer may be mild and transitory. Hemorrhage may be the first definite evidence as pointed out by Miller and more recently by Rivers. These hemorrhages may come from an acute erosion so slight as to be overlooked by the surgeon and to require the aid of the microscopist for confirmation. The latter writer inquires if perhaps these acute erosions are not the forerunner of the chronic ulcer.

When a peptic ulcer produces clinical manifestations certain subjective symptoms are present which are so characteristic as to suggest a probable diagnosis. The most important of these symptoms relate to the feeling of epigastric distress. This distress is variously described as burning, gnawing, aching, gas, fullness or cramp-like.

Since the history is so very important in all gastro-intestinal disorders we are in the habit of incorporating within the history a "typical day" story—which reveals, of course, something of a composite picture, but nevertheless, helping to show the relationship of distress to the time of eating, relief and rest. This is invaluable in the chronic ulcer and is particularly helpful in the consideration of the diagnosis of early ulcer. The distress as it appears in the chronic, definitely proven, ulcer will be something as follows:



No distress is likely present in the A. M., a. c. unless there is retention of food in the stomach over night. There is no distress while eating or for one-half hour or more after. Then about 9 to 10 A. M. it begins and will last a few minutes to an hour or more, depending upon the severity of the symptoms and position of the lesion, but in any event, relieved by food. The noon meal brings relief. No distress will appear for one or more hours after eating and then it will continue for a variable time. If the ulcer is so situated as to interfere with the emptying of the stomach—i. e., and ulcer either duodenal or prepyloric, the distress usually comes on later after meals and continues until the next meal to be promptly relieved by eating. On the other hand, when the ulcer is on the lesser curvature of the stomach it may not continue until the next meal, but it is relieved just the same if food is taken between meals. As a rule there is little or no distress in the evening after supper. If it does appear it will be about 9 P. M., and of the same character as during the day. Later on in the course of the disease the distress is very likely to awaken the patient at 1 to 2 A. M. This, at times, will become very severe and vomiting of very sour acid water may occur. This, too, is associated with pyloric obstruction, and, of course, usually due to duodenal ulcer.

The patient has learned to take soda, soda mint, or crackers and milk for the distress and is conscious of a very prompt relief. His distress will continue for a few days to two or three weeks and then spontaneously or by aid of rest, soft diet and soda, it will disappear for weeks to months or more. There will be a definite periodicity noted which is quite characteristic of the chronic peptic ulcer. The distress then may be said to be absent when the stomach is empty and usually appears not earlier than a half hour after eating and will be relieved by the taking of adequate alkali, by emptying the stomach either by vomiting or aspiration.

By keeping these facts in mind one may later test out the distress, observing the relief and recurrences of the distress and in this way have a much more accurate understanding of the patient's condition.

The patient with duodenal ulcer often has a very abrupt onset. Careful and diligent search of the history reveals no early symptoms suggestive of a so-called "pre-ulcer" stage. The patient

is perfectly comfortable, has eaten well, has a good appetite, says he could eat anything, when suddenly he becomes conscious of an epigastric burning or hurting. This distress manifests itself often from the very first with clock-like precision. It has many of the important characteristics of a later and thoroughly proven duodenal lesion. Does this early attack represent the so-called "ulcer sickness" mentioned by some authors or the submucous hemorrhages in the duodenum recorded by Judd, or is it a small early ulcer, perhaps superficial and not even indurated, being subjected to constant reinfection from a specific focus and the continued insult from the digestive juices in the stomach, that later produces the chronic ulcer? It seems very significant that in studying the individual attacks from the very earliest, they will be alike in all general details. Any specific variation in the picture will be due entirely to the advent of complications that arise or general progress of the condition.

Gastric ulcers may not have quite the same exactness in the picture as the duodenal but for general discussion it presents such definiteness that no one can fail to recognize the great similarity. This is true in the early stages as well as in the later. Here again I have great difficulty in recognizing a "pre-ulcer" stage from an analysis of the early history of gastric ulcers.

Here then we have an individual often in the early twenties who is suddenly conscious of an epigastric distress, burning, soreness, or perhaps a hunger sensation or appearing as a fullness and bloating. This distress has such definiteness, recurs with such precision and is so similar day by day, that attention is at once attracted. The distress will continue for several days to several weeks and then disappear for weeks or months and then recur as before. Sometimes it never returns. Occasionally it will reappear after several years. Often a diagnosis is made by the patient of indigestion or gastritis and concurred in by the physician. "Upon superficial investigation the distress due to a diseased gall-bladder, appendix or irritable colon may resemble the distress of an ulcer. When the distress picture is subjected to careful analysis, however, exploratory operation should seldom be required for the purpose of differentiating these processes" (Sippy). To make diagnosis of early ulcer would seem to be heresy, judging from the infre-

quency of it. Chronic appendicitis or cholecystitis, indigestion and hyper-chlorhydria are terms so frequently used that we wonder why the apathy in accurate gastric diagnosis. Moynihan says that his duodenal ulcer patients came to him after an average duration of seven and one-half years suffering. This experience is concurred in by practically all observers. Statistics of any large clinic will reveal much the same picture.

When the individual with such early history is investigated it will be found that he presents all of the test-out niceties found in the chronic ulcer picture. It is incumbent upon the investigator that he weigh all the tests with utmost care. Any incompatibilities present must be explained. The patient who complains of gas or other vague epigastric distress which has a definite relation to food taking must be looked upon with great suspicion.

The physical examination in the very chronic ulcer is likely to reveal little except such as is due to the complications. Evidences of anemia; masses due to periduodenitis or perigastritis, visible peristaltic waves indicative of obstruction may be found, but the early stage is much less likely to be associated with these complications, although they may occur. Little, therefore, will be found by examination to aid in the direct diagnosis.

The gastric analysis is the next step in the procedure after the history taking. Except where there is distinct contraindication, the tube should be passed. The amount of free-acid present will at best only be suggestive of a diagnosis. No one may now make a diagnosis of ulcer because of an excessively high acid finding. On the other hand, one will hesitate before making a diagnosis of ulcer in presence of a free-acid of less than twenty. And certainly clinical experience will not warrant a diagnosis of peptic ulcer in continual absence of free acidity. If the total amount of gastric secretion is greater than normal it will be suggestive of continued secretion, or of pyloric obstruction.

The essential finding, therefore, will be to determine an adequate acidity.

Examining the stools of an ulcer patient on a meat free diet for a few days may or may not reveal occult blood. It should be made routine, however, because it may be the first evidence of gastro-intestinal bleeding and aid greatly in the final differentiation between malignancy and

ulcer. In fact, the finding of blood may be the only evidence of a latent ulcer.

The x-ray examination is one of the most important procedures in the diagnosis, yet it must not be relied upon to the exclusion of all other methods. This statement would seem to be superfluous, and yet, in an extremely large number of instances, the final diagnosis is allowed to rest with the roentgenologist. Fortunately, the great majority of ulcers are revealed by the fluoroscope or plates and this is especially true of the chronic ulcers or in those ulcers associated with craters or with marked amount of spasm. One should hesitate to diagnose an ulcer in the absence of x-ray findings unless the clinical proof outweighs all other evidence.

Now and then one has an opportunity to study an individual carefully who has run the gauntlet of x-ray with a negative report, removal of a chronic appendix, removal of adhesions and then continues to have distress. It is conceivable that the x-ray findings were entirely negative, as I have no doubt they often are in the incipient stage, but the criticism to be offered is the absolute dependence upon the roentgenological report.

May I make this summary in the diagnosis?

The early stages of peptic ulcer are similar to the late stages and only varied by reason of the complications present or progressive changes in pathology; that the x-ray may or may not reveal any evidence; that physical examination and laboratory tests often fail to produce direct evidence; that the accurate history taking and subsequent test-out observation will be invaluable in final analysis of the case.

*Treatment.* In view of the variety of possibilities of both predisposing and exciting causes of the ulcer, it is highly important that a thorough search should be made on the individual who complains of a gastric distress which has a suspicion of ulcer and should the suspicion prove an actuality, the search should be exhaustive to reveal the underlying cause.

In view of the importance placed upon the work of Rosenow by present day workers all infections should be sought for and removed. It is often difficult to evaluate the importance of any one focus of infection unless there has been definite history of infection prior to or even suggestive of precipitating the present gastric trouble, but in the event of such close relationship



whatever focus seems to be incriminated should be removed.

Anemia, exhausting disease and deficient diets have been suggested as predisposing to the production of ulcer, therefore these conditions must be thoroughly studied and attempt made to combat them.

Moynihan has said that the dietetic and other regime instituted for the average ulcer patient is entirely too perfunctory. Rigid schemes of management are said to be better avoided. Yet how much variation is there in the average ulcer patient which makes it impossible to follow a definite diet and medical plan? To individualize all patients is to have no concrete method. All must have individual care but the physician must have a plan no less definite than the surgeon who does a gastroenterostomy.

Patients should be hospitalized, if possible; otherwise, they should be sent home to bed for a period of ten days to three weeks. If in a hospital, a diagnosis will be made with much more certainty, the greatest aid given to healing the ulcer, and, especially important, the patient taught to manage his diet for the coming year. The Sippy plan of treatment is followed with occasional modifications as deemed necessary. Emphasis is placed upon the control of the gastric acidity and upon the necessity for the taking of soft foods which produce the minimum trauma to the ulcer area.

Often the circumstances of the patient will not permit of bed rest and in that event the dietetic scheme is varied, but experience will not justify the ambulatory plan as a routine. The outlook for ultimate cure is not nearly so good as where bed rest is instituted. This applies to both early and late ulcers, but it is especially true of the early peptic ulcer where our chances to avoid the necessity for surgery at a later time depends upon our early care. It must be remembered that the early ulcer is heir to all the complications that the chronic ulcer is, such as hemorrhage, perforation, perigastritis and periduodenitis, as well as hypersecretion. This latter complication must always be looked for, since it has as much to do with the interference in healing as any one factor. Stomach aspiration should be done always to determine if the stomach is emptied before retiring and also the amount of secretion present at midnight. This continued secretion which is present through the

night will often defeat the most careful dietetic routine followed during the day. One must be familiar with the secretory and motor disturbances of the stomach to make the most out of the medical management.

The chronic ulcer is difficult to heal, often impossible, and it is for that reason especially that we should treat the early cases thoroughly in their incipency.

We should thoroughly impress upon the patient the importance of following a careful regime for a long time, not days or weeks, but months and even years sometimes. Smoking should be limited, exercise restricted and strong coffee, condiments and alcohol forbidden. A follow-up care is imperative, for in that way one is able to watch the progress of the individual case, make changes in the general management or advise surgical intervention at a much earlier date should it be deemed advisable.

#### CONCLUSIONS

In diagnosing the early ulcer one is assuming a great responsibility since the early recognition means a greater likelihood of curing the lesion. Furthermore, since the ulcer syndrome may seem to be mimicked by other abdominal disturbances, intragastric and extragastric, as well, great care must be exercised in drawing a final conclusion. The early carcinomatous ulcer may simulate a peptic ulcer, or the irritable colon and chronically infected gall bladder may, to the casual observer, also suggest the ulcer syndrome. However, if one will keep in mind the possibility of peptic ulcer in all cases of gastro-intestinal disorders, take a history with such care that will untangle the various epigastric distresses, remembering that the early ulcer differs from the chronic one only in chronicity and in proportion to the complications present, and to properly evaluate all clinical, laboratory and x-ray data, then will he avoid the many mistakes now hidden under such terms as dyspepsia, gastritis and indigestion. And finally, having recognized the ulcer in its incipency, managing it with a rational regime, insisting upon a follow-up care, you will have performed a service to the individual that will be invaluable.

25 E. Washington St.

#### DISCUSSION

Dr. Snorf, closing: I take it that the paper I read was sufficiently long to justify hurrying now. There are just two things I would like to mention:

First of all, regarding differential diagnosis. I intentionally avoided it because it is in itself a long subject and it was not my intention to bring out that phase.

I was sure there might be some misunderstanding regarding the term acute ulcer. Of course, there are many acute ulcers that occur spontaneously. But I believe there are some of those ulcers which, by reason of certain conditions present in that individual or by reason of the location of the ulcer, may later produce a chronic one.

The acute ulcer is a term applied to a lesion of sudden onset often manifesting itself as an erosion which by reason of the causative factors will heal relatively rapidly. I believe, however, that there are some of those ulcers which either because of certain conditions present in the individual or due to the location of the lesion will later produce chronic ulcers. These latter lesions have had a beginning and the quicker we can recognize the ulcer the better it is for the patient.

Regarding management one must necessarily individualize the treatment, but the large number of ulcers, in my experience, present much the same general characteristics, and, to individualize in the sense that you treat all patients different is to have no scheme of management whatever.

Whether we are to operate or treat the patient medically is a point of view developed by what the patient presents and his subsequent progress. It seems to me that surgery is seldom indicated for a patient with a relatively early ulcer, unless it be one that has perforated.

#### MAN EATS SMALL FRACTION OF TOTAL FOOD SUPPLY

Yonkers, N. Y., Aug. 10.—Burning 8,900,000,000,000 tons of coal, 8,900 times as much as the world produces in a year, will release about as much energy as contained in the sunlight captured annually through the production of plant foods. Of this huge total, the human race uses less than 0.2 per cent, according to an estimate by Dr. John M. Arthur of the Boyce Thompson Institute for Plant Research here.

Every day each one of the 1,750,000,000 human beings on the earth consumes about 2,000 calories of food. Even meat comes indirectly from plants. The human race is therefore dependent on photo-synthesis, the process by which the plant uses sunlight to form food. The total consumption of food during a year by man amounts to about 1,200,000,000,000,000 calories. All of the other animal life, vertebrate or invertebrate, large or microscopic, on the globe are estimated to consume about six times this amount.

#### FINDS TOOTH-BRUSH PYORRHOEA PERIL

London, Aug. 20.—The old family tooth-brush is again under indictment with none less than Dr. F. D. Donovan, surgeon dentist to the royal household, leading the attack.

Practically no tooth-brush in current use is free from germs, declared the guardian of the royal

molars in a recent report to the medical journal *Lancet*. He has examined bristles from hundreds of them, including his own, under the microscope with disturbing results.

While pyorrhoea is not actively caused by the unclean brush in Dr. Donovan's estimation, he nevertheless believes that it is at the root of 90 per cent of the cases now prevalent in the civilized world. Keeping brushes immersed in a one to twenty solution of carbolic acid when not in use is the only practical method he has found of keeping them sterile. This is hard on the brushes and fine for the manufacturers, he admits, but is the only remedy he can see at the present time to check the prevalence of the infection.

#### PROMPTED FROM THE BACK SEAT

The driver of a Ford sedan, who was plainly out of his element in city traffic, attempted to turn around in the middle of a block, and was side-swiped and upset by a hook and ladder fire truck on its way to answer a call.

Striding over to the overturned vehicle, a traffic officer poked his head through the broken window and demanded, "What do you mean by blocking traffic like this? C'mon outta there; you're pinched!"

"You let him alone!" said a female voice from the back seat. "How did we know them drunken painters were going to run into us?"—Goblin.

#### UP TO DATE MARY

Mary has no little lamb,  
Like she had long years ago.  
But she has a pair of calves,  
That she delights to show.

They go with her to school today,  
As faithful calves should do,  
Where Mary draws a teacher's pay,  
For imparting knowledge true.

Ye pedagogues of other days  
Would deem her calves too shocking,  
But Mary says it always pays,  
To buy a high-priced stocking.

And Mary wears expensive gowns,  
That are very light and airy,  
Not so showy for the cost,  
But they show a lot of Mary.

Boy! Page Daddy Browning!

Lanning G. Rooke,  
Royal Arcanum Bulletin.

#### A CURE FOR INSOMNIA

McGraw complained of sleeplessness and was told to consult McNabb who had found a sure cure. "Is it a fact," inquired McGraw, "that you have found a cure for insomnia?" "Ay," replied McNabb, "I ha'e a bottle an' a glass at my bedside. If the first glass



disna' work, I tak' anither, an' a third. After that I dinna care if I sleep or no'."

#### ONLY RECENTLY MARRIED

The street-car conductor's change was running short. A young mother with her baby in her lap handed him a half-dollar.

Conductor: "Is that the smallest you've got?"

Young Mother: "Well, I've only been married a year!"—*Medical Pocket Quarterly*.

#### THE APPLE A DAY

It was about eight in the evening. He met a friend on the street and stopped for a moment's conversation. Casually, he noticed that one of his friend's hands encompassed a large red apple.

"What's the idea of the apple?" he inquired.

"I'm just going down to call on a doctor's wife," was the reply.

#### ALL OF ONE KIND

Policeman: "Judge, this man is arrested for gambling and being drunk."

Drunk: "Your Honor, 'Man's inhumanity to man makes countless thousands mourn.' I'm not as debased as Swift, as profligate as Byron, as dissipated as Poe, or as debauched as—"

Judge: "That will do. Thirty days, and officer, take a list of those names and run them in; they're as bad as he is."—Wash. & Lee Mink.

#### EMBARRASSING TO SAY THE LEAST

A child was teasing the kitten, when her mother remonstrated:

"Phyllis, the next time you hurt that kitten I'm going to do the same to you; if you hit or pinch it, I shall hit or pinch you. If you pull its ears, I shall pull yours."

Silence for a moment, then: "Mummy, I pulled its tail."

#### SOUNDS WE CANNOT HEAR!

"You make me so angry," stormed Mrs. Biggs after the company had left. "Why do you insist on sitting on the piano stool all evening? Everybody knows you cannot play a note."

"Neither can anybody else while I'm sitting here," explained Mr. Biggs, placidly.

—*Florida Grower*.

#### THE REASON FOR THE SHOWER

"Why do they always give a shower for a girl who is going to be married?"

"Merely a quaint old custom, my boy, to symbolize the beginning of a reign."

#### CLEVER DEFINITION OF ALIBI

"Rastus, what's an alibi?"

"Dat's provin' you wuz at a prayer meeting whar

you wasn't, in order to show dat you' wasn't at the crap game whar you wuz."—*Montreal Star*.

#### LIMITED BRAIN CAPACITY

"They say he's wandering in his mind."

"That's all right. He won't go far."—*Pomona Sagehen*.

### News of State

#### MARRIAGES

JULIUS ADLER to Miss Celia Mildred Keener, both of Chicago, June 3.

MILTON H. CARRIG to Miss Louis Kerz, both of Chicago, May 24.

SIGMUND S. TASHMA, Zeigler, Ill., to Miss Jane Levin of St. Louis, June 23.

#### PERSONALS

Dr. John A. Gardiner has resigned after many years' service as health officer at La Grange Park.

Dr. R. A. Hanna, Peoria, was elected president of the Alumni Association of Keokuk Medical College at the reunion in Keokuk, Iowa, June 8.

Dr. Harold D. Palmer, Iowa City, Iowa, has been placed in charge of the laboratory at the Rockford Hospital, Rockford.

Dr. Ludvig Hektoen was the guest of honor at the annual banquet of the Pacific Northwest Medical Association, Tacoma, July 5; the subject of his address was "How Medical Knowledge Grows."

Dr. John C. Dallenbach, Champaign, has been appointed a member of the board of the Outlook Sanatorium to succeed Dr. Charles B. Johnson, who was killed in an interurban accident May 31.

Dr. Philip F. Gillette, Elgin, has been appointed to the staff of the Elgin State Hospital. Dr. Gillette formerly was a member of the staff for about eight years but has been in private practice in Elgin for the last four years.

Dr. Carl H. Wilkinson has resigned as coroner of De Kalb County and has accepted a position in Chicago as house physician for a group of hotels.

At the joint meeting of the Monroe and Randolph County Medical Societies at Paris, Missouri, July 10th, Dr. Harold Swanberg of Quincy gave a talk on "The Practical Uses of Radium in Uterine Hemorrhage," illustrated with lantern slides.

## NEWS NOTES

—The DeWitt County Medical Society met June 22 at Farmer City; Drs. Don Deal and Samuel E. Munson, both of Springfield, spoke on "The Acute Abdomen" and "Cardiac Lesions," respectively.

—At the annual picnic of the Peoria County Medical Society, June 29, Dr. Charles H. Mayo, Rochester, Minn., was scheduled to speak on "Relation of the Sympathetic Nervous System to Disease," and Dr. Charles P. Emerson, Indianapolis, on "Chronic Arthritis."

—Smith College awarded the honorary degree of doctor of science, June 18, to Edna L. Foley, superintendent, Visiting Nurse Association of Chicago, in recognition of her work in the field of public nursing; only a few others, among whom are Madam Curie and Dr. Alice Hamilton, have been thus honored by Smith College.

—The Cook county board is reported to have appointed Dr. Chester H. Warfield, Ann Arbor, Mich., as director of the roentgen-ray unit at Cook County Hospital, which has just been remodeled at an expenditure of about \$25,000. Five rooms have been added for examinations and an additional room set aside for roentgen-ray therapy. The unit is said to have a capacity of 150 patients in twenty-four hours.

—Contrary to custom, pneumonia was almost as prevalent during May this year as in April. According to the state department of health, a sharp decline nearly always occurs in May in Illinois. The prevalence of influenza this spring is given as the probable cause of the unusual amount of pneumonia. Although the influenza epidemic was mild, it seems definitely related to the rise in the incidence of pneumonia. The number of cases of pneumonia reported in the first four months of 1928 was 55 per cent greater than in the same period of 1927. The disease was not confined to any particular area of the state.

—The Educational Committee is planning to contribute several articles to the Bulletin of the Chicago Department of Health. The Bulletins carrying these articles will bear the caption that the issues were prepared under the auspices of the Educational Committee of the Illinois State Medical Society.

Radio talks on the following subjects will be

given over WGN during the next few weeks at twelve o'clock noon:

Hay Fever.

Care of the Eyes.

Swimming as a Cause of Ear, Nose and Throat Infections.

Why Have Diphtheria?

Care of the Skin.

Is Your Child Ready for School?

Mental Health.

Sunshine and Health.

Chicago physicians are scheduled to give health talks before the Northwest Town Kiwanis Club, the Maywood Lions Club, and the Streator Rotary Club.

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Deaths

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FRANK H. ACHATZ, Chicago; Chicago College of Medicine and Surgery, 1914; member of the Illinois State Medical Society; aged 54; died, July 8, of septicemia, as the result of a scratch on his arm received in a fall on the sidewalk.

JOHN M. AULD, Chicago; College of Physicians and Surgeons, Keokuk, Iowa, 1880; aged 74; died, July 6, of brain tumor.

MATTHEW F. BOZINCH, Chicago; University of Moscow, Russia, 1890; Chicago College of Medicine and Surgery, 1912; aged 63; died, July 11, of thrombosis of the coronary artery and angina pectoris.

JOHN R. FLEXER, Joliet, Ill.; University of Pennsylvania School of Medicine, Philadelphia, 1886; aged 65; died suddenly, June 29, of heart disease.

ZEPHANIAH S. FOULON, East St. Louis, Ill.; Missouri Medical College, St. Louis, 1887; on the staffs of the Christian Welfare Hospital and St. Mary's Hospital; aged 66; died, June 30, of myocarditis.

JOHN W. JEFFRIES, Waltonville, Ill.; American Medical College, St. Louis, 1879; aged 83; died, June 16, of senility.

GEORGE FREDERICK RUPPERT, Elgin, Ill.; St. Louis University School of Medicine, 1908; member of the Illinois State Medical Society; veteran of the Spanish-American War; aged 56; on the staff of St. Joseph's Hospital, where he died, June 22, of carcinoma of the pancreas.

CHARLES D. RYERSON, West York, Ill.; Medical College of Ohio, Cincinnati, 1881; aged 74; died, June 14, of cerebral hemorrhage.

RALPH BEEDLE SCOTT, Venice, Ill.; Beaumont Hospital Medical College, St. Louis, 1898; member of the school board and president of the Venice State Bank; aged 63; died suddenly, June 9, of heart disease.

EDWARD F. SHAFFER, Grayslake, Ill.; Central College of Physicians and Surgeons, Indianapolis, 1889; aged 67; died, June 5, of cerebral hemorrhage.



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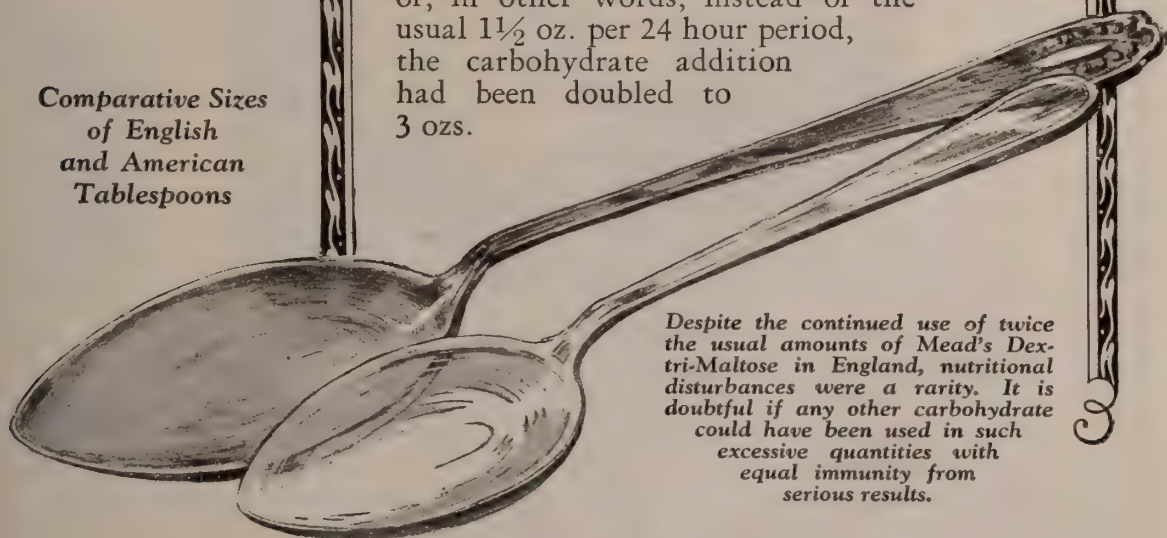
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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 169

### ORIGINAL ARTICLES

Physical Therapeutic Methods in Otolaryngology. *A. R. Hollender, M. D., and M. H. Cottle, M. D., Chicago*... 191

Chronic Arthropathies. *Charles P. Emerson, M. D., Indianapolis, Ind.*... 196

Major Points in the Treatment of Fractures. *Daniel H. Leinthal, M. D., Chicago*... 201

Management of Second and Third Stages of Labor. *G. F. Hibbert, M. D., Chicago*... 209

Congenital Pyloric Stenosis. *Roland Hill, M. D., St. Louis, Mo.*... 214

Quincke's Edema and the Prostate Gland. *D. M. Olkon, M. D., Chicago*... 217

Physician in Industry Re Private Practitioner and the Community. *Volney S. Chesny, M. D., Chicago*... 218

Preliminary Preparation of Patient for Colostomy. *Charles J. Drueck, M. D., Chicago*... 220

Observations on Legg's Disease. *Robert C. Lonergan, M. D., Evanston, Ill.*... 221

Management of Eclamtogenic Toxemia. *Frederick H. Falls, M. D., Chicago*... 224

Carcinoma of the Rectum. *L. E. Handleman, M. D., Chicago*... 229

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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## Editorial

### WHY SHOULD THE WHIM OF PREJUDICE OF A WARD BOSS CONTROL THE RIGHT OF THE SKILLFUL PHYSICIAN IN THE PRACTICE OF MEDICINE

Medicine is a science so great that unscientific adventures on the part of the ignorant laity are pathetically humorous. Through the centuries men have labored to discover the hows and whys of the ills of the body. Due to medical discoveries, many diseases have become extinct. Many known diseases are under control. Medical progress lessened the death record in the world war to only a fraction of what it has been in previous conflicts.

Looking these accomplishments in the face, it is ridiculous for cobblers, bank presidents, school teachers, stenographers, bookkeepers, street car conductors, plumbers and other allied trades and professions and the citizenry at large to presume to tell doctors how medicine should be practiced. What doctor dare tell a plumber how to lay a gas pipe, or a bookkeeper how to find his cash shortage?

There is an army of human parasites seeking to get on the pay roll of the state or government that finds the shortest and easiest route to accomplish this end is to inaugurate social welfare movements and propaganda intended to create "new positions" and that will give them supervision of the health welfare of the people, ever an interesting topic.

Medical men spend years in preparing for the practice of medicine. It is ridiculous to presume that after a man has spent twenty thousand dollars in money and devoted his time up to twenty-eight years of age or more to prepare himself for the practice of medicine that the knowledge he would acquire in his studies and clinical training would be inferior to some social uplifter's medical education, gained largely from correspondence course booklets or abridged school instruc-

tion. In these days anyone can "learn to be" almost anything through the media of doubtful advertisements and "mail order" instruction in science or art.

There has been an attempt in some states to limit the fee that a doctor might charge for a prescription. If the fee of a doctor can arbitrarily be made one dollar, speaking as an example, for a prescription to relieve pain there is no telling to what extent the principle can be carried. The recent attempt along this line is illustrative of unsound reasoning. A doctor, for instance, might spend several days in patient clinical and scientific investigation of a patient, bringing into play the most modern methods and scientific instruments and apparatus in order to make a correct diagnosis, spending perhaps several hundred dollars' worth of time and indeed an outlay of a large amount of money. If at the end of his investigation he saw fit to write a prescription his fee could be only one dollar. A law of such a character would be unreasonable and would destroy initiative and pauperize the profession, and eventually reduce available assistance for the sick and ailing to the minimum of capable and responsible skill.

#### ILLINOIS STATE MEDICAL SOCIETY'S FIFTH COUNCILOR DISTRICT PICNIC —EVERYBODY WELCOME

September 12, 1928

The Fifth Councilor District will hold a picnic at Old Salem Chautauqua Grounds, September 12. The Chautauqua Grounds are at Petersburg (Menard County), reached by the Peoria-Springfield hard road. There is a large pavilion, so the picnic will be held regardless of weather.

Dr. George W. Crile, Cleveland, Ohio, will deliver the address on Surgery.

Dr. John Phillips, Cleveland, Ohio, will deliver the address on Medicine.

There will be a round-table conference of the county societies of the Fifth District, addressed by the State Secretary, Dr. Harold M. Camp, at one o'clock. This will be followed by the program of addresses.

A fish dinner will be served, cafeteria style, following the program. Reservations for dinner should be sent as early as possible to Dr. John

R. Neal, Springfield, Chairman of the Committee on Arrangements. This invitation is extended to all Doctors, their families and friends, throughout the State. It is expected that all the officers and councilors of the State Society will be present.

The Chautauqua Grounds are adjacent to New Salem State Park, which composes the original buildings that were present during the time of Abraham Lincoln's home at New Salem, including the old store and the cottage of Ann Rutledge, which forms one of the most interesting chapters of Lincoln's life. The picnic was located at this place that the Doctors, with their families, may have the wonderful opportunity of visiting this, one of the most historic spots connected with the life of Abraham Lincoln, and considered one of the most beautiful in the State.

#### ILLINOIS MAN MADE PRESIDENT ELECT OF A. M. A.

Dr. Malcolm LaSalle Harris of Chicago, was made president-elect of the A. M. A. in June, 1928. Much time has been devoted by Dr. Harris to solving both economic and scientific problems confronting the profession. Dr. Harris has been connected continuously with the official family of the A. M. A. since 1901. He served as trustee for 15 years. For a longer period of time than that Dr. Harris was chairman of the judicial council. In this latter capacity the president-elect wrote practically all the judicial decisions that have come before the A. M. A. for solution. Many of these adjudications would do credit to the minds of the best legal luminaries of the American Bar. Dr. Harris' election to the head of the A. M. A. is at best only a partial recompense to him for the time, labor and mentality he has expended without cavil for the benefit of organized medicine.

For those unfamiliar with Dr. Harris' life this brief biography may be of interest:

Malcolm LaSalle Harris was born June 27, 1862, in Rock Island, Illinois, the son of Samuel G. and Frances Green Harris. His early education was received in the public schools of Iowa and his medical education at Rush Medical College, from which he received the degree of doctor of medicine in 1882. Dr. Harris has practiced medicine continuously in Chicago since his



graduation, teaching in the Cook County Hospital, Chicago, and as professor of surgery at the Chicago Policlinic. Following reorganization of the American Medical Association in 1901, Dr. Harris became a member of the House of Delegates. Since that time he has been seated in the House as a delegate, as a member of the Board

tions to medical literature include the translation and editing of Braun's "Local Anesthesia," and contributions to the Oxford, Keen's and Bryant's Systems of Surgery, as well as many contributions not only in surgery but also in the field of medical education, and particularly of medical economics to various periodicals.



Malcolm LaSalle Harris, M. D.  
President-Elect of the American Medical Association

of Trustees, or as chairman of the Judicial Council. He was a member of the Board of Trustees from 1903 to 1918 and has been a member of the Judicial Council and its chairman since 1918. As a surgeon Dr. Harris has been honored with membership in the International Surgical Association, the American Surgical Association, the Western Surgical Association and the American Association for Clinical Surgery. He has been president of the Chicago Medical Society, the Chicago Surgical Society, the Chicago Pathological Society and the Western Surgical Association, and has held other positions of importance in both county and state societies. His contribu-

#### ANOTHER STATE MEDICAL SOCIETY PREPARING ITS MEDICAL HISTORY

Following the example set by Massachusetts and Illinois nearly a dozen state medical societies are at present engaged in writing the medical history of their respective states. Failure to earlier record the achievements of the great men who made medical history in this country during the formation period of our history is a sad reflection of the respective state societies.

The latest addition to the list of state societies to attempt the recording of its medical history is Louisiana. The August edition of the *New Orleans Medical & Surgical Journal*, the official

organ of the Louisiana Medical Society, has the following:

#### HISTORY OF THE LOUISIANA STATE MEDICAL SOCIETY

The history of the Louisiana State Medical Society, made possible by a special act of the House of Delegates, is progressing rapidly and favorably under the able editorial guidance of Dr. Rudolph Matas. For the past three months Dr. Matas has had working under his direction a Secretary-Librarian who has already compiled a great many interesting and important data. The work will progress more rapidly and could be accomplished in much quicker time if the co-operation of the parish and district society secretaries was more wholehearted than it is. Considerable difficulty has been experienced in securing information from these sources. It is hoped that the Secretaries will appreciate that much of the worth of the volume will necessarily have to depend upon the aid that they can and will give.

A discouraging feature, which it is believed is due entirely to tardiness rather than to unwillingness, is the small number of prospective subscriptions. Less than one-third of the subscriptions which will make the work a financial success have been received. It is most earnestly hoped that the men who intend to subscribe to this interesting history of the activities of the Society will send in their subscriptions at the earliest possible moment. It will hearten and encourage the Committee materially to know that their work is appreciated.

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#### THE AMERICAN MEDICAL ASSOCIATION MEETING AT MINNEAPOLIS

Awakening of the medical profession to national economic situation of physicians was evidenced by work at the June meeting of the A. M. A.

The medical profession may well congratulate itself upon the results of the Minneapolis session of the A. M. A.

Much was accomplished. Results of the Convention may in all truth be considered a continued triumph of the ideals of medical practice.

From the results of the Minneapolis meeting it is apparent that throughout the United States there is an awakening of the medical conscience

to the economic evils menacing the future stability of medical practice.

It must be remembered that this conscience can not content itself with mere awakening. The profession must be roused to action. While a peril sensed is safer than a peril ignored, the way of safety lies only in a peril combated and conquered.

Reflection upon the ideals at stake before the Minneapolis session and that were upheld through the recent elections, shows how dear these ideals are held by the profession at large. There must, however, be a decided loyalty through personal and individual activity on the part of every reputable physician throughout the country if these ideals are to be maintained. The hour of "letting George do it" is past. It continues to be the duty of every doctor in the country to assist the heads of local, state and national organizations to make the country safe for the medical profession and its unselfish ministrations to the general public and to civilization by gradual reduction and complete destruction of those economic evils, accruing from lay ignorance and that have not only had the profession by the throat, but are planning an even closer grip. To checkmate this proposed evil extension of the sphere of influence of these national malefactors demands more than a delegate's vote at a convention. It is requisite that physicians throughout the country shall back up by daily action, and continuous civic enterprise the ideals and principles to which the profession's leaders continue to be commended.

For those who were not at Minneapolis it may be interesting to know that:

Registration was 4,876.

Section meetings, for which adequate halls conveniently located were provided, were well attended and the programs were good.

Diagnostic clinics on Monday and the clinical lectures on Tuesday aroused much favorable comment.

Scientific Exhibit and Technical Exhibit were up to the highest standard of previous years.

The House of Delegates handled the business before it expeditiously and gave careful attention to every item. The reference committees performed their duties splendidly, their reports were submitted promptly, and showed that ear-



nest and intelligent consideration had been given to all matters referred to them.

All that was done at the Minneapolis Session was done "to promote the science and art of medicine and betterment of public health" and to advance the best interests of the medical profession.

Figures evidence that the enrolled membership on April 1 was 96,443, an increase over last year of 2,191. This, of course, represents the total membership of the several constituent state associations. The gain in Fellowship during the year was 1,597. There is now a total Fellowship of 62,487. This, as is well known, represents that portion of our membership which voluntarily become a part of the Scientific Assembly of the Association by the payment of an annual fee of \$5.00. For this payment, as is also well known, the payer receives *The Journal of the American Medical Association*, quite the most valuable publication in the medical world. California, Illinois, New York, Massachusetts and Pennsylvania lead in Fellowship membership.

*The Scarcity of Doctors in Rural Communities* received unusual and extended consideration. Dr. Jabez N. Jackson acknowledged the existence of a shortage of the sort, but insisted that there were ample economic reasons therefor, and that the medical profession could not be blamed and could not be expected to correct the situation at once. He pointed to the fact that the source of income to the medical profession through a large variety of diseases such as typhoid fever and malaria, had helped to drive doctors from rural to urban communities.

In the address of the Speaker, Dr. F. C. Warnshuis, it was suggested that the annual speaker's address to the House of Delegates should contain no general recommendations concerning policies of the Association but that it should deal with the affairs and procedures of the House of Delegates. The Speaker urged that careful consideration should be given, and thorough review of matters submitted should be made, by reference committees, and that there should be no generalized approval of referred reports and resolutions.

The President, Dr. Jabez N. Jackson, reviewed vital changes affecting the practice of medicine, referring especially to the development of specialization and institutional care and to the exploita-

tion of the physician in the abuse of medical charity. He offered a recommendation to the effect that there should be an investigation and classification of medical charities, either through a special committee of the Association or through the Judicial Council.

The President-Elect, Dr. William Sydney Thayer, delivered a brief address in which he called attention to the present tendency toward overorganization of the profession. Dr. Thayer paid tribute to the work of Dr. Hideyo Noguchi, lately deceased.

The recommendations of the Reference Committee were adopted by the House.

#### MEDICAL EDUCATION AND HOSPITALS

The report of the Council on Medical Education and Hospitals indicated that the Council plans to devote considerable attention for the next several years to a survey of hospitals in the United States. The Chairman of the Council, in presenting the report, indicated that the difficulties of appraisal are recognized and are being considered by the Council. The report also dealt in some detail with the appraisal of clinical laboratories.

The Reference Committee called attention to the fact that the appraisal of medical institutions and agencies in so extensive and so populous a country as this is a vast undertaking and urged that the policy of the Council should be carried out with great caution and in cooperation with constituent state medical associations and state authorities.

The Reference Committee strongly endorsed the recommendation of the Chairman of the Council on Medical Education and Hospitals urging that the practice of medicine is not the proper function of corporations and that the American Medical Association should use its utmost endeavors to stop this growing abuse. The Committee endorsed the substance of a resolution offered by Dr. Southgate Leigh of Virginia to the effect,

- (1) That it would be desirable that medical students should graduate and enter practice at an earlier age than at present;
- (2) That the plan of covering the medical course in three years of four quarters instead of in four years of three quarters, or any other adequate plan for reducing the

length of the medical course, is greatly to be desired.

- (3) That the medical course is overcrowded with details and with detailed consideration of specialties and would be improved by less crowding with a course confined more nearly to the essentials, and that efforts to this end should be made.

#### REPORT OF OFFICERS

The Reference Committee offered its approval of the declaration of the President that "the time has come when no institution or clinic should permit its attending physicians to be imposed on; and when, whatever the social or other advantage to the physician in the clinic, he should not be permitted to contribute to what is a gross injustice to the profession as a whole."

The Committee also approved the principle of the President's recommendation for the investigation and classification of medical charities through the Judicial Council.

The Reference Committee especially approved of the suggestions of the President-Elect that in the multiplicity of independent medical societies there exists a danger of diverting and dissipating the fundamental strength of organized medicine "as typified in the composition of our county, state and national organizations."

The recommendations of the Reference Committee on Reports of Officers were adopted by the House of Delegates.

#### REPORTS OF BOARD OF TRUSTEES AND SECRETARY

The Reference Committee on the Reports of the Board of Trustees and Secretary endorsed that part of the Secretary's report relative to the multiplicity of existing independent medical organizations whose work, in many instances, parallels the work of the component county and constituent state medical associations and, to some extent, tends to interfere with the successful operation of component county medical societies and constituent state medical associations of the American Medical Association.

Concerning the meetings of hospital staffs, the Committee offered the following statement:

The committee deprecates especially the compulsory multiple scientific meetings of hospital staff organizations. These have tended to limit to small groups the dissemination of medical in-

formation and the discussion of medical problems, interfering thereby with the work of organized medical societies. Organization is necessary in order to obtain unified action of the medical profession in various communities. We feel that the need is greater than ever for general discussion of medical problems and for the dissemination of information associated with the specialties to all physicians. Only in this way can the general practitioner keep abreast of modern medicine.

Your reference committee suggests that the staff meetings of hospitals be devoted preferably to executive discussions of problems relating to hospital economics and records, and that members of the American Medical Association make special efforts to stimulate interest in, and the development of, scientific medicine in the regularly organized county medical societies.

This part of the Committee's report evoked extensive discussion but was adopted by the House as presented by the Committee.

The recommendations offered by the Secretary concerning relief for needy physicians, which recommendations were submitted in compliance with specific instructions received from the House of Delegates, were approved by the Reference Committee with the recommendation that each constituent state medical association should be left to follow its own plan for the relief of needy physicians.

The recommendation of the Reference Committee was that the Board of Trustees should appoint a commission of five to consider the whole situation, including the various solutions that have been proposed, and to determine the responsibility of the American Medical Association.

The report of the Reference Committee stressed the importance of the periodic examination; commended the work of the Council on Pharmacy and Chemistry and made an urgent appeal for the support of this Council by the profession at large; approved the work of the Council on Physical Therapy, especially in providing for the dissemination of information concerning the methods of physical therapy among the profession and commented most favorably on the work of the Bureau of Investigation.

Efforts of the Bureau of Legal Medicine and Legislation toward preventing the extension of



socialized medical practice by the government through the Veterans' Bureau and similar organizations were endorsed by the Committee and the intention of this Bureau to continue its work for legislation giving physicians the right to deduct from income tax returns expenses incurred in attending scientific meetings and in taking graduate courses of instruction, were approved by the Committee. The activities of the Bureau with respect to the status of the physician as an expert witness were also approved.

The Reference Committee expressed appreciation of the report of the Committee on the Grading of Nursing Schools, and recommended that the request for additional appropriations for the use of this committee be referred to the Board of Trustees.

#### REAPPORTIONMENT OF DELEGATES

On recommendation of the Reference Committee on Reapportionment of Delegates, 775 was established as the basic figure for determining representation of state associations. Under this new apportionment Illinois retains its former number of ten on a ratio of one delegate for each 775 members. Each association with a membership of less than 775 will be represented by one delegate. On this basis, the total membership of the House of Delegates will be 173. California, Florida, New Jersey, New York and Pennsylvania will each gain one delegate, under the new apportionment, while Iowa and Texas will each lose one delegate.

A resolution presented by Dr. John O. Polak of the Section on Obstetrics, Gynecology and Abdominal Surgery provided that the House of Delegates should disapprove of any reduction in the hours allotted to the teachings of obstetrics and should advocate that obstetrics as a major subject be allotted a number of hours equal to those allotted to surgery. In reporting on this resolution, the Reference Committee on Medical Education made the point that the importance of a subject or the amount of work that it constitutes for the general practitioner alone is not a proper measure of the time which should be allotted to the study of that subject. The Committee also felt that definite instructions of the kind contemplated in the resolution to councils and other bodies engaged in working out difficult problems are inadvisable and that freedom and

initiative should not be hampered by rigid instruction. The importance of thorough instruction in obstetrics was recognized by the Committee, but its recommendation was that the resolution of Dr. Polak be not adopted.

The report of the Reference Committee on Medical Education was adopted by the House of Delegates.

#### HYGIENE AND PUBLIC HEALTH

The Reference Committee on Hygiene and Public Health recommended that the House of Delegates reaffirm its endorsement of the plans outlined at a previous session for medical relief in disaster.

With respect to a communication addressed to the House of Delegates by the National Grange concerning the alleged scarcity of physicians in the rural districts, the Reference Committee offered the following resolution, which was adopted by the House of Delegates:

*Resolved*, That an official reply to the Grange be formulated by the Secretary of the House of Delegates embodying the following thoughts:

1. That the House of Delegates is keenly alive to the problems involved and recognizes that, although there will always be some inadequacy of medical services in sparsely settled communities, improvement of medical services in rural districts is needed.

2. That the problem is being intensively studied by the Commission on Medical Education (already in its fourth year), the Committee on the Cost of Medical Care, the Council on Medical Education and Hospitals, and other bodies.

3. That the problem is fundamentally economic and the solution involves much more than the mere length and costs of medical education.

4. That patience and time are necessary in order to obtain data and evolve methods for solving this problem.

5. That suggestions from the National Grange and information will be welcomed by the House of Delegates and by any of the bodies specially engaged in the study of medical educational and economic problems.

#### LEGISLATION AND PUBLIC RELATIONS

The following resolution, introduced by Dr. C. J. Whalen of Illinois, was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, It has come to our attention that students in universities and colleges are being given free medical care without regard to the ability of the individual to pay for the same, therefore be it

*Resolved*, That the Judicial Council be requested to investigate the matter as to the extent to which this practice prevails.

The Reference Committee recommended that this resolution be referred to the Judicial Council.

The recommendation of the Reference Committee with respect to the report of the committee appointed to secure revision of undesirable regulations under the Volstead Act was to the effect that this committee be continued for one year.

The Committee approved the resolution introduced by Dr. Orrin Sage Wightman of New York providing for the appointment by the Board of Trustees of a Committee on Visual Moving Picture Education.

The recommendations of the Reference Committee on Legislation and Public Relations were adopted by the House of Delegates.

#### AMENDMENTS TO CONSTITUTION AND BY-LAWS

The Reference Committee on Amendments to the Constitution and By-Laws recommended that the proposed amendment to Section 1, Article 5 of the Constitution, offered by Dr. George Edward Follansbee of Ohio, be made instead an amendment to the By-Laws to be Section 12, Chapter XI, to read as follows:

The House of Delegates shall have the power to expel a member of the American Medical Association or a Fellow of the Scientific Assembly on recommendation of the Judicial Council.

The Committee recommended that a proposed amendment providing that decisions of the Judicial Council should be subject to review by the House of Delegates be rejected.

The recommendations of the Reference Committee on Amendments to the Constitution and By-Laws were adopted by the House of Delegates, except the recommendation concerning the proposed amendment providing for the establishment and disbursement of special funds by sections of the Scientific Assembly which was laid on the table.

The following officers were elected:

President-Elect, Dr. M. L. Harris, Chicago; Vice-President, Dr. W. A. Jones, Minneapolis; Secretary, Dr. Olin West, Chicago; Treasurer, Dr. Austin A. Hayden, Chicago; Speaker of the House of Delegates, Dr. F. C. Warnshuis, Grand Rapids, Mich.; Vice-Speaker, Dr. Allen H. Bunce, Atlanta, Ga.; members of the Board of Trustees, Dr. J. H. Walsh, Chicago, and Dr. A. R. Mitchell, Lincoln, Neb.; members of the

Judicial Council, Dr. F. W. Cregor, Indianapolis, and Dr. James B. Herrick, Chicago; member of the Council on Scientific Assembly, Dr. Roger S. Morris, Cincinnati; member of the Council on Medical Education and Hospitals, Dr. Reginald Fitz, Boston.

Portland, Ore., was chosen as the place of meeting for the annual session in 1929.

#### NURSES ARE PLENTIFUL BUT ARE BADLY DISTRIBUTED

Dr. N. B. Van Etten in *Am. J. Nursing*, July, 1927, discussing the nurse question, says that nurses are plentiful but are badly distributed; the cities enjoy a surplus but the rural districts show a shortage. The result is that many rural inhabitants cannot get nursing service that they want at any reasonable cost, and many city nurses are not fully employed.

Hourly nursing offers a partial solution for those who require a nurse but cannot afford to pay for full time; it should, if properly organized, be satisfactory also for the nurse. The idea is capable of very great expansion.

There is a weight of evidence to support the opinion that a subsidiary nurse is greatly needed. The weekly rate should not exceed \$25.00 and employment and fees should be regulated by central official registries.

All classes of nursing service, including specialist nurses, should be dispensed through the central registry and this procedure affirmed by law.

Another way to increase the supply of nursing service is through group nursing in hospitals; this is feasible, if an honest attempt is made to put it into execution.

The education of the nurse is now more chaotic than that of any other public servant. The curriculum should be revised and simplified, with the cooperation of physicians, nurses and educators.

#### GREENE COUNTY ENDORSES DOCTOR SMITH

WHEREAS, Dr. H. W. Smith of Roodhouse, Ill., is a candidate for the legislature, and

WHEREAS, Dr. Smith is a member of our society and esteemed for his ability as a doctor, as well as his qualities as a man, and

WHEREAS, we believe that men of the type of



Dr. Smith should be encouraged to serve the people in public office, Now; therefore be it

*Resolved* by the Greene County Medical Society in meeting assembled that we hereby endorse the candidacy of Dr. H. W. Smith and urge the people of this the 38 Senatorial District and particularly to give him their cordial support in the coming election, Nov. 6, 1928.

NATHANIEL BUCKLIN, Pres.

W. H. GARRISON, Sec.

### UNFAIR COMPETITION OF STATE AND ENDOWED HOSPITALS WITH THE MEDICAL PROFESSION

Among the many hospitals catering to the general public, yet managed for the major benefit of the organizations controlling them, especial attention is called in this issue to the hospital connected with the University of Michigan and the Cornell University Clinic.

Perusal of the appended citations will prove the contention that the medical profession can not continue in existence and compete with endowed institutions, or university hospitals, that are in reality organizations politically controlled and supported by authorized general taxation.

These virile quotations are from "*American Medicine*" and "*The People's Health*."

*The University Hospital.*—Most medical schools of state universities established hospitals years ago for teaching purposes, but now they are coming to be used by the state for the care of a much larger number of persons than are needed in teaching. The State of Michigan maintains at the University at Ann Arbor an 1,100 bed institution of this kind. Laws of the legislature enacted in 1913 and 1915 make it mandatory upon the hospital to accept patients sent to the institution by the probate judges of the various counties.

Approximately 50 per cent. of patients at this hospital in 1925 were state cases treated at the expense of the county from which they came or of the state; 50 per cent. came of their own volition; of these, about one-half were persons who could "truthfully sign an affidavit that they were unable to pay the usual minimum fee charged by the medical profession outside of the hospital." Such persons, in the opinion of the

hospital, are those below the economic status of a family of five whose *annual income* is \$2,500. These persons pay \$3.50 per day for a bed in an 18-bed ward, or \$4.50 a day for a bed in a 2-bed ward. To them no charge is made for medical and nursing service; neither is any charge made for surgery. This hospital will accept patients of the economic status of a family of five whose annual income is between \$2,500 and \$4,000, at the same rates as above for beds in both the large and the 2-bed wards, or it will accept such patients in private rooms at the rate of \$6 per day without both or \$10 per day with bath, with an additional charge of \$6 per day for private nurse, plus \$1 per day for her board, or a charge of \$4 per day for a hall nurse serving three other patients. Persons of this economic status are charged for professional services in the departments of surgery or medicine; the charge for an appendectomy, for instance, *would probably be \$100*. For persons of an economic status above that of a family of five having a \$4,000 income, the same charges are made for hospital and nursing services, the only difference being that more is charged for professional services, as much as \$200 for an appendectomy, or even \$300 if the income is \$10,000 per year or over.

The University Hospital employs approximately 25 wholtime professional persons in its surgical, medical, pathological, and x-ray departments. These persons are paid \$2,400 to \$15,000 a year, the great majority being relatively young men who receive \$2,400 to \$4,000 per annum. The medical school pays the larger part of the amount and the hospital the balance.

*The Cornell Pay Clinic.*—One of the most interesting developments in this field is the Cornell Clinic, organized in November, 1921, with the cooperation of the Committee on Dispensary Development of the United Hospital Fund. The announcement that a pay clinic was to be established resulted in an almost overwhelming number of applicants. During the first five months over 18,000 different individuals were admitted. Many persons with obscure and chronic cases were influenced, it was believed, to seek medical attention by the publicity incident to the opening of the clinic. During the three years ending October, 1924, a total of over 50,000 different persons received treatment, and there was an average of over 18,000 new patients per year.

The following departments were being operated by the clinic at the beginning of 1926: dentistry, dermatology and syphilology, orthopedics, otology, general surgery, gynecology, neurology, ophthalmology, pediatrics, psychiatry, rhinology and laryngology, and urology, together with the following nine divisions of the general medicine department, asthma and hay fever, arthritis, cardiac, consultation clinic, diabetes, endocrin, gastroenterology, health clinic, and overweight clinic.

When the Cornell Clinic was first opened, a general admission fee of \$1.00 was charged. This proved to be insufficient to meet the cost of running expenses; and for that reason the amount was later increased to \$1.50.

The following fees are taken from the schedule of charges in force in January, 1926:

Each visit to each department.....	\$ 1.50
Consultation (for patients referred by physicians) .....	10.00
Periodic Health examination .....	5.00
'Check up' 30 days after health examination...	1.50
Consultation (tuberculosis or cardiac).....	5.00
Wassermann examination .....	2.00
Sputum examination, tubercle bacilli.....	.50
X-ray of teeth, entire mouth.....	5.00
X-ray of complete gastrointestinal tract (fluoroscopy) 2 visits.....	10.00
Setting fractures and dislocations.....	10.00
Salvarsan .....	3.50
Vaccination .....	1.50

When the new fee schedule went into effect there was a slight drop in attendance, but a careful analysis of the records has led the director to conclude that the increased admission fee has not acted as a deterrent to new or old patients to any appreciable degree.

The people appear glad of an opportunity to pay these reasonable amounts for service, rather than to accept charity. It is surprising, said George H. Bigelow, when he was Director of the Cornell Clinic, to see with what avidity the patients accept the fact that they are getting what they pay for.

It is illuminating to compare charges made by the Cornell Clinic for an entire sickness or disability with charges made in private practice. A patient with a fracture of the lower arm pays at the Cornell Clinic for complete treatment, including x-ray, baking, and massage and 12 visits to the clinic, an average of \$37.50. A moderate private rate for the same services of \$100.

The cost of service to 80 patients of the Cornell Clinic, many of them still under treatment, selected consecutively so as to include a variety of disease conditions, was ascertained to be \$522.40. It was then found that the same services, if given by a general practitioner charging a minimum office fee, would have cost these 80 patients \$1,182, and that if given by recognized specialists with medicine, x-ray and laboratory tests, they would have cost them \$2,595.

The relatively low charges of the Cornell Clinic are possible partly because this is a teaching institution; but a more important reason is that the work is so organized that economical use is made of equipment and professional services.

An earnest, consistent effort is made to render service of high quality. Patients have a right, asserts the Second Annual Report of the Clinic, "to expect adequate medical service without the element of charity, and to be handled promptly and courteously." To avoid long periods of waiting, a system of appointments is used. Each department of the Clinic has a definitely known and limited capacity, and when that capacity is reached, no more patients are admitted on any particular day. In this connection one device is especially interesting. In every department each patient is stopped on his way out by a trained social worker and asked if he understands what he has been told; he is given a chance to ask additional questions, and the social worker determines whether it is practicable for him to carry out the physicians' advice.

"Has the patient been treated as an individual or has the Cornell Clinic given medical treatment wholesale?" asks the Committee on Dispensary Development. Its answer follows: When several hundred patients are cared for in a few hours, to individualize each one and to deal specifically with his personal needs are difficult problems. Persons who visit the busy private offices of various expensive specialists have been impressed with the same difficulty. Individual attention to individual needs, courtesy and promptness of service are in this respect tied together. The tests of satisfaction from these points of view are psychological and not medical, and can hardly be judged except by indirect methods. It would be inconceivable that such patients as have come to Cornell would continue to come and to send their friends if the service



had been mechanical, discourteous, and inconvenient because of undue waiting.”

Careful investigations have been made, with the aid of economists, to determine precisely the kind of patients belonging to the group which can afford to pay more than the nominal fee of the free clinic but cannot pay the cost of regular private medical service.

Three considerations have guided the Clinic in determining the eligibility of applicants: 1. the income of the individual or family, 2. the size of the family and the various financial responsibilities of the patient, and 3. usual cost, at private rates, of the kind of medical care required in the individual case. On these bases, three groups are recognized as eligible; applicants with incomes so low that they cannot pay the fees usually charged in private practice, those temporarily embarrassed because of unemployment, previous illness, or other financial emergency, and those who might be able to pay a private physician for most kinds of care but who cannot afford the unusual expense of some particular type of medical service. It was the conclusion of the management in 1921 that members of families whose total income was within the range of the figures listed below belonged, as a rule, to the class who can pay more than the nominal fee of a free clinic, but not the rates charged in private practice. These figures were to be revised according to changes in the cost of living.

Single individuals .....	\$1,100-\$1,800
Family of two.....	1,600- 2,200
Family of three.....	1,850- 2,500
Family of four.....	2,050- 2,750
Family of five.....	2,200- 3,000

Of 21,228 applicants in 1923, 3,129 were rejected because they could not afford even the limited charges of the Cornell Clinic, but only 265 were rejected because they could afford, in the judgment of the management the regular charges for private service.

Probably 35 to 45 per cent. of physicians in Manhattan, New York City, recognizing the limitations of private practice, have referred patients to the Cornell Clinic since it was established in 1921. Evidently the institution meets a real need, not only of patients of moderate means but of general practitioners who cannot maintain the expensive equipment nor provide in

their own offices the specialized service afforded by the clinic. Statistics reported in 1923 by the Director indicated that 70 per cent. of its patients had been for six months or more under the care of private physicians for the same condition for which they came to the clinic.

. . . . The total cost of maintaining the clinic for the 9 months period ending March 31, 1925 (not including overhead such as rent, heat, and light, assumed by the medical college for services rendered), was \$196,739, and the expenditures for this period were \$190,780. While at the beginning of its career, the clinic was about 80 per cent. self-supporting, it is seen from the above statement that in the year 1925, with the assistance given by the university, it had become independent of outside support.

“That a pressing need exists for institutions which can furnish modern scientific medical service at moderate costs has been definitely demonstrated. It has also been shown that it is possible to provide such service by the organization of specialties and the common use of costly equipment, laboratory facilities, nursing and clerical assistance. The group clinic, the public pay clinic, the county hospital, the industrial health department, and the student health department have been sufficiently successful in improving the quality of medical services, and in some instances, in reducing the cost, to justify their extension.

Such institutions as the Boston Dispensary (which has been able to offer modern specialized service at approximately \$1 per visit, including a liberal charge for upkeep and overhead), and the Public Health Institute of Chicago have shown clearly what can be done by way of providing high-grade service at lower fees.

Public pay clinics may be established in far larger numbers by medical school or departments of health, if private group clinics do not succeed in furnishing service for persons of moderate means.

Page 572—More recently such hospitals as the Henry Ford and the U. of M. are practicing medicine and surgery with their own staffs in open competition to the entire medical profession; the first, a private institution doing no free work, and the second, a state institution taking pay cases.

It is my contention that the medical profes-

sion should get at the root of this evil, this attempted pauperization of medicine. No such a problem or boggy, such as "state medicine," would ever be seen or heard of, had not the people been fed up on free medicine, free dispensaries, free clinics, etc. What other profession is so crowded with its "free offerings" on the altar of public service? A letter from Dr. S. E. Barnett, to the *Journal of the Michigan State Medical Society* in 1921.

## Correspondence

### A BIG MEDICAL MEETING IN A SMALL COUNTY

Monmouth, Illinois, Aug. 27, 1928.

*To the Editor:* I am sending herewith a report of a very interesting meeting held a few days ago by one of the smallest County Medical societies. I hope you will be able to get this report in the September issue of the JOURNAL, as I do believe that it will be of interest to many of our smaller county societies.

The following is an account of the activities of this county society.

H. M. CAMP, M. D.,

Secretary Illinois Medical Society.

During the past few years we have heard repeatedly that in a number of small County Societies it is impossible to have a meeting. We have had the opinion that many of the best Societies in Illinois are small ones, and that some of the best meetings have been held by these smaller organizations. It was our privilege to attend one of the best meetings we have seen in a long time at Rushville, Schuyler County, on August 23d. The Schuyler County Society is composed of nine members. For a number of years, meetings have been held which have held the Society together. Some of these meetings have been dinner meetings, with one of the members acting as host to the Society.

This Society recently decided to hold a big meeting, arrange an unusual program, and have a large attendance. This was arranged for August 23. The place of the meeting was Scripps Park, one of the finest of its kind in the State. During the afternoon many of the visiting physicians played golf, while others indulged in trap shooting, several of the followers of this

sport breaking from 95 to 97 clay pigeons out of 100.

An excellent dinner was served at 6:30 P. M. in the Community House at the Park, and approximately 100 were present. During the dinner excellent entertainment was given by a High School Orchestra and some soloists.

The Mayor of Rushville, Hon. George Baird, gave the Address of Welcome, and the Response for the Society was given by Dr. Don Deal of Springfield, who has been a guest of the Schuyler County Society on several occasions.

Dr. Frank Deneen of Bloomington talked on the Goiter Heart, and gave an interesting outline of this condition, and its differential diagnosis. Dr. E. P. Sloan of Bloomington talked on his favorite subject, "Goiter," and in his usual interesting manner talked on the surgical treatment of goiter, showing the types which should be treated surgically and those which require only medical care. These talks were discussed by a considerable number present, and the general discussion added to the interest of the subject.

Dr. Geo. T. Palmer of Springfield gave an excellent paper on Tuberculosis, more from a diagnostic standpoint, and showing the necessity of early diagnosis and early institution of proper care in all cases. This very instructive paper was discussed by Dr. W. A. Hodges, Superintendent of the McDonough County Tuberculosis Sanitarium at Bushnell, Dr. S. E. Munson of Springfield, and others.

The last speaker on the program was Dr. Harold Swanberg of Quincy, who gave an illustrated talk on the Uses of Radium. Dr. Swanberg outlined in detail the various conditions in which radium is used, methods of application, and the opinions of many of the leading exponents of radium therapy in these various applications. Special reference was made to its use in gynecologic conditions. No exorbitant claims were made by the speaker, and he gave a resume of the modern trend of thought and practice along this line. This subject was freely discussed by Dr. A. P. Standard of Macomb, Dr. Walter Bain of Springfield, and several others.

Councilors S. E. Munson of the Fifth District, Springfield, and Col. Chas. D. Center of Quincy, Councilor of the Sixth Councilor District, were called on for short talks. Dr. Munson extended



a courteous invitation to all present to attend the Sangamon County meeting to be held at Petersburg on Wednesday, September 12, 1928.

Dr. A. L. Brittin, Past President of the Illinois State Medical Society, was introduced, and made a short talk commending the Schuyler County Society for the excellent meeting, and also urged those present to attend the Sangamon County meeting, which will be held in his own County, Menard, on September 12. Dr. Brittin also reminded us that his County Society was even smaller than the host Society of this meeting, and again called attention to the fact that a small Society can hold not only an interesting meeting, but a big one.

Dr. H. O. Munson of Rushville thanked those present for coming to the meeting, and also announced that this was to be an annual affair, and that all present were invited to attend their still bigger (if possible) 1929 meeting.

We take pleasure in recommending this type of meeting to all small Societies, and if members work together, it is quite evident that a similar meeting can be put across.

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#### THE FARMER HAS DESERTED THE SMALL TOWN DOCTOR, NOT THE DOCTOR THE SMALL TOWN

Kankakee, Illinois, Aug. 10, 1928.

*To the Editor:* The article in the August issue of the JOURNAL from the "National Grange" relative to the country doctor situation is interesting but does not place the blame where it belongs. The farmer is to blame. He has ceased to adequately support the country doctor and the basic reason for this is ease of transportation.

I started practicing nearly thirty years ago in the horse and buggy age. In those days it ordinarily took two hours to go twelve miles. Nowadays the farmer in that community can drive fifty miles in the same length of time and he does. In that community today the local doctors get nothing but emergency cases and confinement and other work among people who are too poor to get away. The confinements all go out of town, (if able) much of the surgery goes out without even consulting local men. Whereas, the town used to support four or five doctors it is now able to support only two, and they are hard

up. The people are still there, the sickness is still there but it is on wheels travelling to the big towns.

The farmer has deserted the small town doctor, not the doctor the small town and the farmer.

It is not specialization except in this respect that the farmer will get into his car and go to a specialist himself without even consulting the home doctor and an awful lot of them do.

PAUL R. HOWARD.

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#### COOK COUNTY PHYSICIANS AND THE CORONER'S OFFICE

Chicago, Illinois, Aug. 18, 1928.

*To the Editor:* Enclosed is a copy of a letter mailed to Dr. Ludvig Hektoen, referring to the articles recently published in the Chicago papers.

Kindly publish this correspondence in the forthcoming issue of the ILLINOIS MEDICAL JOURNAL. The medical profession are entitled to the facts and I am therefore sending it to the JOURNAL for publication rather than ask for publication in the newspapers.

THOMAS P. FOLEY, M. D.

25 E. Washington St.

August 17, 1928.

Dr. Ludvig Hektoen,  
637 South Wood Street,  
Chicago.

Dear Doctor:

I have read with interest articles appearing in The Chicago Sunday Tribune of August 12th and The Chicago Daily News of August 13th relative to the type of physicians appointed by Coroner Oscar Wolff since 1919.

I was a Coroner's Physician from December 15, 1924, to October 7, 1927, having been appointed, not on a political basis, but on the recommendation of The Public Relative Committee of The Chicago Medical Society. I question the good taste of an ex-president of The Chicago Medical Society ignoring an official action of that body.

I take exception to your statement "it unfortunately must be said that they have had practically no training or experience for the work for

which they were appointed." I am a graduate of the best medical school in Chicago, an ex-interne of Cook County Hospital and have taught medicine since leaving the County Hospital in 1910.

The natural inference from the above quoted newspaper statement is that your idea of a pathologist is one whose knowledge came as a natural gift. I disagree with this because I know from actual experience that any competent physician who applies himself diligently and conscientiously and has the magnificent opportunity offered at Cook County Morgue can acquire a knowledge of pathology. It was this same opportunity that made pathologists of yourself and your associates, but a Coroner's Physician must be more than a technician. He should be human. He comes in contact with the public at a time of sadness and distress. He must be big enough and broad enough to recognize the rights of all concerned—the Coroner, the family and the undertaker. The office is no place for a narrow minded, overbearing scientist.

When you went to the County Morgue as a Coroner's Physician I do not believe your knowledge or experience was any greater than some of the physicians criticized in your report.

I did the work at Cook County Morgue thoroughly. I had no group of students doing the posts, making the necessary notes, and no stenographer from the Coroner's office writing the statements for the Deputy Coroner. I know my statements, which are public records, compare favorably with yours or any of your associates who were Coroner's physicians.

I have written two articles of medicolegal interest. One appeared in the magazine of The National Coroners' Association and the other in the ILLINOIS MEDICAL JOURNAL. Both were original and not the work of someone else with my name attached.

My reason for leaving the Coroner's office in 1927 was because the time required was more than I could give from practice and I naturally gave up the one paying the least—the Coroner's office.

Yours very truly,

THOMAS P. FOLEY.

25 E. Washington St.

## COUNTY HEALTH SCHOOL SUPERFLUOUS—BLUE ISLAND OFFICIALS AND PHYSICIANS IN THAT VICINITY OPPOSE ESTABLISHMENT OF COOK COUNTY HEALTH SCHOOL

This, a plain statement of facts reprinted from *The Blue Island Sun-Sentinel* of May 17, 1928, reveals a fresh point of attack on the part of those forces determined to effect the socialization of the medical profession.

The attempt was nipped in the bud at Blue Island as is evidenced through prompt action by the city officials and the southern branch of the Chicago Medical society. Similar and surreptitious attempts may be expected.

### COMMISSIONERS WITHDRAW PLANS FOR THIS CITY

CHICAGO MEDICAL SOCIETY CALLS IT SOCIALISTIC AND POLITICAL  
SAY THERE IS NO NEED

*A letter written to Hon. Paul T. Klenk by the Southern Cook County Branch of the Chicago Medical Society is reproduced on this page and explains in detail the stand that the society takes in regard to the proposed health center.*

The announcement of the establishment by the Board of Cook County Commissioners of the Cook County health school in Blue Island for the south end of the county made recently, aroused such concerted opposition on the part of the physicians of the city and of the surrounding communities as well as here that at a meeting with the county commissioners last week attended by every active physician of the city of Blue Island excepting one, Dr. A. J. Roemisch, who was on a case at a hospital at the time, the county board decided to withdraw the health center.

Dr. Herbert L. Wright, director of health of Cook county, expressed himself as being sure that his work was misunderstood by the local physicians and met in conference with them at the St. Francis hospital last Wednesday afternoon. The meeting proved futile in solving the situation and ended by the county director walking out on the physicians after they began to ask what he regarded as personal questions.

#### PROMINENT MEN

The meeting with the Board of Commissioners was attended also by Mayor Paul T. Klenk, Dr. G. Henry Mundt, president of the Illinois Medical society, Dr. Edward Ochsner, past president American Medical association, and Dr. P. R. Blodgett, counselor, South Cook county branch of the Chicago Medical society.

Dr. Blodgett, who acted as spokesman, was not allowed to finish his case for the physicians before Anton J. Cermak, chairman of the board, made a motion that the local center be withdrawn and no



more established anywhere in the county except with the consent of the mayor and physicians of that place.

Local physicians declare that neither they nor the hospital at any time are neglectful of charity cases and that there is no need of a health center or clinic as far as they are concerned.

#### FEAR SOCIALISM

They point out that it is not so much the question of this clinic, but that the whole idea leads toward the socialization of medicine and eventually to state controlled medicine such as is the case in Germany. This strangles individual endeavor and results in killing initiative among the physicians.

"Would you like to be told to what doctor you must go for your ailments? Would you want a political appointee of uncertain medical standing to administer to your illnesses? If you were in the lumber business how would you like to have the state establish a free lumber yard in your town?" These are questions that the physicians here ask.

#### MEDICAL SOCIETY EXPLAINS TO MAYOR KLENK OBJECTIONS TO FREE HEALTH CLINIC HERE

Honorable Mayor Paul T. Klenk  
Mayor City of Blue Island  
Blue Island, Illinois.  
DEAR SIR:—

The Southern Cook County Branch of the Chicago Medical Society sincerely appreciates your cooperation with our committee in voicing our objections before the County Board to the establishment of the Cook County "School of Health" in Blue Island.

Our objections to the establishment of the clinic are as follows:

The taking over of the practice of medicine by the state is a part of a socialistic, beaureaucratic trend of government advocated by long-eared reformers and is patterned after the mistakes in the field of public health practiced in many European countries.

More particularly since the war there has been an intense desire on the part of various "up-lifting organizations" to have the government domiante and regulate everybody's business but their own, and to extend this practice down to the county and city governments.

The national government should have no part in those affairs in which the state is able to act and for which it is responsible, and the same applies to the state in its relation to the county, the county in its relation to the city, and the city as it concerns the individual. Paternalism in government, unless curbed, will break down American institutions and will destroy the underlying principles of representative government.

In its application to this phase of the practice of medicine by this County Board in the establishment of a "clinic" or "School of Health" in Blue Island, we feel that such a procedure should be condemned (1) because it will be maintained as are all public and most private charities, not for the poor alone, but for all who apply for treatment, and (2) because

it abrogates the principle that charity should cease when an individual is in a position to discharge the obligations of citizenship, that that type of charity which pauperizes the individual is a bad thing for society. The individual who is entitled to medical charity is he who is an object of charity in other respects. If he is financially able to do so, he should pay his doctor as well as his grocer and his coal man. Any organization which pauperizes the individual to any degree destroys a part of the self-reliance and the self-respect of that individual and makes him less of an asset to his community.

The care of deserving charity is one of the heritages of the profession and we accept it as such. The deserving poor have been adequately cared for by the profession. No class of men give so freely to the sick in need as do the doctor. We believe that we are safe in saying that the physicians of our communities give more to charity than do all other agencies combined. This contribution to the welfare of society is in every instance a personal one and is of the type that helps the individual back on his feet so that he may become again a useful member of society, but is never the type that pauperizes him.

Private hospitals have done a large amount of charity work. There is no need for the extension of the charity work of the County Board in Southern Cook County. The doctors are adequately caring for all the sick. Those who are in need of long periods of treatment and hospitalization are being referred by the physicians to county institutions or to the charity wards of public or private hospitals.

Our taxes are being raised continually. The taxpayers of Cook County have no money to spend on a program of public work which aims at the pauperization of part of its people. The communities that are continually appealing for the establishment of such "clinics" are raising their own taxes and are making possible more and more increases as time goes on.

Part of the money set aside for the operation of these "clinics" goes for pork-barrel activities which are a part of the spending of the taxpayer's money. Part of the money goes to pay a type of doctor who is a failure in private practice and must feed upon the public. Some of these doctors have not even a license to practice medicine—this applies particularly to those connected with the proposed Blue Island Health School.

If all legal services were dispensed to the individual without cost the type of service would soon become very mediocre—the men with ability and initiative would soon leave. The same situation would apply to the medical or to any other profession. In order that any profession may render the type of service which society demands of it, society must make it possible for that profession to maintain its economic independence.

The getting of something for nothing is the "bunk." We get about what we pay for in this world and this applies just as much to medical services as it does anything that we buy. When you know that medical services are being given away at a particular clinic

it is a foregone conclusion that those who go there get little worth while. This, of course, appeals only to the small "gimme" type of individual which all of us must put up with. The thinking men and women know that the individual, careful attention of their own physicians is more thorough and more satisfactory than being passed down the line in any clinic.

There is no efficient substitute for that individual attention that only the private physician can supply. The health of the community lies in the hands of the private physicians.

Yours very truly,  
Southern Cook County Branch of the  
Chicago Medical Society

## AMERICAN PUBLIC HEALTH ASSOCIATION

Many prominent physicians, surgeons, health officials, nurses, scientists and social workers from Illinois are to take leading parts in the 57th annual convention of the American Public Health Association, to be held in Chicago at the Stevens Hotel, October 15 to 19, inclusive.

More than 3,000 delegates and visitors will be present at this year's meeting, including representatives from every state in this country, as well as groups of prominent doctors from Germany, Switzerland, England, Canada, Mexico and the Canal Zone.

The convention itself will be divided into eleven main sections as follows: Epidemiology, Cancer, Child Hygiene, Vital Statistics, Health Officers, Industrial Hygiene, Laboratory, Public Health Engineering, Foods, Drugs and Nutrition, Public Health Education, and Dental Hygiene.

This year the American Child Health Association and the American Social Hygiene Association are to meet jointly with the American Public Health Association, and the first session of the convention will be a joint one of these three organizations, when Dr. Herman N. Bundesen, president of the American Public Health Association, will deliver an address of welcome and speak on the aims and projects of the meetings to be held in the following days. This joint meeting will be on Monday evening, October 15.

On Wednesday evening a second general session will be held when Dr. Frank G. Boudreau, of the health division of the League of Nations, will be present from Geneva, Switzerland, to speak on "International Health."

Probably the section which will create the greatest general interest will be the one on Epidemiology, which will be under the direction of Dr. Edward S. Godfrey, Jr., Director of the Bureau of Communicable Diseases of the New York State Department of Health. Dr. Alton S. Pope, Chief of the Bureau of Communicable Diseases of the Chicago Health Department, will present his recent research on "High Case Fatality in Epidemic Meningitis." Dr. Thomas G. Hull, of the Diagnostic Laboratory of the Illinois State Health Department; Dr. Lloyd Arnold, Professor of Bacteriology and Preventive Medicine at Loyola University, Chi-

cago, and Harry F. Ferguson, of the Illinois State Department of Health, will all three report on "Water-Borne Epidemics of Diarrhea in Illinois."

Other features of this section will be a paper on "Ratio Distribution and the Death Rate of Diphtheria in New York City," by Dr. Haven Emerson, of the Columbia University Department of Health Administration, New York City; "Epidemiological Studies of 83 Cases of B. Abortus Infection," by Dr. A. V. Hardy, of Ames, Iowa; and "An Epidemiological Study of Thirty-six Cases of Malta Fever in Michigan," by Dr. Paul Orr, Commissioner of Health, of Lansing, Michigan.

The American Public Health Association looks to the Epidemiology Section as one which will be of great value and importance in the history of health movements.

In the first session of the Health Officers Section, Dr. Herman N. Bundesen, president of the American Public Health Association, will co-operate with Arthur J. Dempster, of the University of Chicago, and Dr. I. S. Falk, also of the University of Chicago, in leading the discussion on "Relation Between ultraviolet Rays and Vital Statistics."

In the second session of this section Dr. S. S. Winner, of Chicago, will present a paper on "Active Scarlet Fever Immunization." The discussions in this session will be led by Dr. Walter H. Brown, of Palo Alto, California, and Dr. L. D. Bristol, Executive Secretary of the Bellevue-Yorkville Health Demonstration, New York City.

Other topics of this section include: "Health Demonstrations," by Dr. George C. Ruhland, of the New York State Department of Health; "Four Years' Experience with a Consolidated Inspection Service in the Chicago Department of Health," by Dr. G. Koehler, Assistant Commissioner of Health, and Dr. John E. Murphy, Chief of the Bureau of Inspection Service of the Department of Health, Chicago; "Practical Points About Active Immunization Against Diphtheria and Scarlet Fever," by Dr. William H. Park, Director of Laboratories, of the New York City Department of Health; "Ultra Violet Therapy and Public Health Clinics," by Dr. H. J. Gerstenberger, of the Babies' and Children's Hospital, Cleveland, Ohio; and "The Prevention of Air Pollution," by Dr. Robert D. McLaurin, of Cleveland, Ohio.

The discussion in the Industrial Hygiene Section will be under the direction of Dr. Volney S. Cheney, Medical Director for Armour and Company, Chicago. The first report to be given in this section will be that of John B. Reynolds, Director of Industrial Development for the World West Utilities Company, Chicago. Mr. Reynolds will present "The Possible Relationship of Mutual Benefit Associations to the Health of Employees."

The Industrial Hygiene Section also includes the following papers, each presented by a recognized authority on the subject: "Mobilizing Mutual Benefit Associations to Include Health Activities," by Magnus W. Alexander, President of the National Industrial



Conference Board; "Extension of Industrial Hygiene by Tuberculosis Associations in the United States," by Bernard S. Coleman, Executive Secretary of the Hudson County Tuberculosis League, Jersey City, New Jersey; "The Tuberculous Worker and His Placement in Industry," by C. W. Bergquist, president of the Chicago Tuberculosis Institute; and "Health Education in an Industrial Plant," by John B. Gibson, Director of Safety and Health for the Western Electric Company, of Chicago.

Dr. Benjamin Goldberg, Secretary of the Board of Directors of the Chicago Municipal Tuberculosis Sanitarium, will be one of the principal speakers in the Vital Statistics Section. Dr. Goldberg will have as his subject "Tuberculosis in Racial Types, with Special Reference to Mexicans."

The discussions in the Vital Statistics Section will be led by Dr. Herman T. Peck, General Medical Director of the Medical Field Bureau, New York State Department of Health. "Our National Accident Problem," will be the subject for an address by Charles B. Scott, Manager of the Bureau of Safety, Chicago, and R. L. Forney, Statistician of the National Safety Council of Chicago, will speak on "What We Don't Know About Accidents."

Discussions in the Child Hygiene Section will be under the direction of Dr. William Danforth, of Evanston, Illinois. Dr. Danforth is a Fellow in the American Gynecological Society. In this section Miss Mary E. Murphy, Director of the Elizabeth McCormick Memorial Fund, Chicago, will give a report on the "Result of the National Congress of Parents and Teachers 1927 Summer Round-Up of Preschool Children," and Miss Sara B. Place, Superintendent of the Infant Welfare Society, Chicago, will speak on "Child Hygiene in a Large City, by a Voluntary Agency Acting for the City Health Department." B. K. Kilbourne will present the various phases of child hygiene work in a small city. Mr. Kilbourne is City Health Officer for Fargo, North Dakota. Miss Grace L. Anderson, Director of the East Harlem Nursing and Health Service, New York City, will give a paper on "Child Hygiene in a Limited Area of a Large City."

T. J. King, Supervising Food Inspector of the Chicago Department of Health, will have charge of the Foods, Drugs and Nutrition Section. The heads of the different committees in this sections are: H. M. Loomis, United States Public Health Service, Washington, D. C., Fruits, Vegetables and Their Products; Dr. F. C. Blanck, of the Bureau of Chemistry, Washington, D. C., Cereals and Their Products; Dr. Carl R. Fellers, Massachusetts Agricultural College, Amherst, Massachusetts, Meat, Fish and Shellfish; Dr. Harry W. Redfield, of Mendham, New Jersey, Dairy Products and Eggs; and Professor H. C. Sherman, of the Columbia University Department of Chemistry, New York City, Nutritional Problems.

A symposium on "Sterilization of Milk Containers and Equipment" will be a feature of the Public Health Engineering Section. This symposium will be under

the direction of Professor M. J. Prucha, of the University of Illinois Department of Dairy Products, Urbana, and Lewis Shere and Gerald L. Hoeft, both of the Chicago Department of Health. George W. Fuller, Consulting Engineer, New York City, and Carl Speer, Sanitary Engineer, Chicago, will lead the discussions in this section.

A study of "Carbon Monoxide Pollution of Air in Chicago" will be given by the following: Joel I. Connolly, Chief of the Bureau of Sanitary Engineering, Mathew J. Martinek, Senior Sanitary Chemist, and John J. Aeberly, Jr., Chief of the Division of Ventilation. Dr. H. J. Shaughnessy, of the University of Chicago Department of Hygiene, will give a report in the symposium on "School Room Ventilation."

Another symposium of the Sanitary Engineering Section will be one on "Financing Water Supply and Sewerage Projects." This will be led by Langdon Pearce, Sanitary Engineer, Chicago Sanitary District. The discussion following this symposium will be directed by Harry F. Ferguson, Chief Engineer of the Illinois State Department of Health.

C. L. Waggoner, Superintendent of the Coke Oven Plant, By-Products Coke Corporation, Chicago, will present a paper on "Industry's Problem in the Disposal of Phenol Wastes, as part of the symposium on "The Disposal of Phenol Wastes," and Dr. Floyd W. Mohlman, Chief Chemist of the Chicago Sanitary District, will tell of his recent researches in "Biochemical Oxidation of Phenolic Wastes."

In the Laboratory Section Professor E. O. Jordan, of the University of Chicago, will make the report for the Committee on Standard Methods, and Dr. Ruth Gilbert, of the New York State Department of Health, will report on the progress for 1928 of standardization of the Wassermann test.

An interesting report which will be a feature of the third session of the Laboratory Section will be given on "Modified Iodine Pentoxide Method for Determination of Carbon Monoxide in Air." This is to be given by M. J. Martinek, Senior Sanitary Chemist, and William C. Marti, both of the Chicago Department of Health. Other papers to be presented in this same session include: "A Study of the Effect of Calmette's B. C. G. Vaccine on Experimental Animals," by Dr. Merrill J. King, Director of the John R. Hegeman Laboratory, at Mt. McGregor, New York; "Coliform Organisms in Milk," by Dr. Edmund K. Kline, of the Department of Health, Birmingham, Alabama; and "2500 Microscopic Slide Precipitation Tests and Wassermann Tests with Same Antigen with Clinical Comparison," by Dr. Benjamin S. Kline, S. Littman and M. C. Bowman, all of the Mt. Sinai Hospital, Cleveland, Ohio.

The Public Health Education Section will work out steps for planning publicity for health campaigns. Professor Franklin Fearing, of the Department of Psychology, Northwestern University, Evanston, will open the subject with "The Approach—How Decide On the Motives for Conduct to Which An Appeal Will Be Made," Dr. Iago A. Gladston, of the Bureau

of Health Education, of the New York Tuberculosis and Health Association, New York City, will follow Professor Fearing's talk with "Examples of Health Education and Publicity Programs—A Review of Current Practice."

At a luncheon session of this section Miss Mary L. Hahn, of the Illinois State Department of Health, will speak on "Program for Health Education Training in Teachers' Colleges," and Miss Marie F. Kerwin, of the Tuberculosis and Public Health Committee, State Charities Aid Association, New York City, will present "Diphtheria Campaigning—What Is New? What Is Difficult?"

At one large session when the Public Health Education Section will meet with the Child Hygiene Section and the American Child Health Association, Miss Carolyn Hoefer, of the Elizabeth McCormick Memorial Fund, Chicago, will give a "Study of the Health of School Children in Joliet." Dr. James F. Rogers, Chief of the Division of Physical Education and School Hygiene, Bureau of Education, Washington, D. C., will speak on "A Review of School Health Work," and Dr. Raymond Franzen will discuss the educational tests used by the American Child Health Association in a school health study. Twenty minutes of this session will be taken up by presentation of studies in health education, made under the direction of Dr. John Sundwall, Director of the Division of Hygiene, Public Health and Physical Health Education at the University of Michigan, Ann Arbor, Michigan.

In the Dental Hygiene Section Dr. Harry J. Thomson, Field Secretary of the Canadian Dental Hygiene Council, Toronto, Ontario, Canada, will speak on "What Habit, Attitude and Knowledge Objectives Should Be Sought at Various Age Levels," and Dr. William R. Davis, Director of the Bureau of Mouth Hygiene of the Department of Health, Lansing, Michigan, will discuss the dental health education materials designed for school use.

A total of 81 observation trips to supplement the convention discussions have been planned. This number includes 18 scheduled trips and 63 optional ones. Every Chicago institution of interest to workers in any phase of health will be open to convention delegates and visitors.

Three scheduled trips are planned to be particularly valuable to doctors and hospital officials. The first of these trips includes the New Children's Building of the Cook County Hospital, the Municipal Contagious Diseases Hospital, and the Illinois Research Hospital. This latter institution is of more than ordinary interest because it gives those who visit it an opportunity to see an immense medical project in the process of development. The Research Hospital, the Psychopathic Hospital and the Orthopedic Hospital have all been completed. The Nurses' Home is now under construction, and the student laboratories, dental infirmary, as well as the teaching amphitheatres are being planned. At the present time the Research Hospital has approximately 150 beds available. The dispensary is one

of the largest in the city and forms an invaluable aid for instruction of students in practical medicine. The library of the medical school is one of the largest and most complete in the country.

The second of these three trips includes the Children's Memorial Hospital, the Municipal Tuberculosis Hospital and the Daily News Fresh Air Sanitarium, in Lincoln Park, where each year over 30,000 babies and about one-quarter as many mothers are treated annually. It is a most interesting institution, worthy of study from all those interested in child health.

The third of these trips is to the medical schools of the University of Chicago and Northwestern University. The former medical unit was recently completed at a cost of \$5,000,000, and is one of the best equipped medical institutions to be found anywhere. It is destined to be a center of far-reaching importance and influence for medical education and research.

The Northwestern University Medical School is located on the McKinlock, or downtown, campus. It is housed in a mammoth twenty-story building, the first seven floors of which belong to the medical school and the next six floors to the dental school. The medical clinic, which now occupies the lower three floors will later be incorporated in the new General Hospital to be built on the campus in the near future.

Not the least interesting of the many features of this year's American Public Health Association Convention will be the 150 exhibits on view. These exhibits will display the latest and most modern health equipment and apparatus. Traveling health stations, or railroad cars, will be stationed on the Illinois Central tracks, directly opposite the Stevens Hotel all during the convention. These cars are equipped to be rushed to the spot of a disaster, or epidemic, or to take health service from a centralized district to more isolated places.

Extensive plans have been made for the entertainment of women guests of the convention. There will be motor tours of Chicago through the beautiful parks and boulevards, luncheons at the Edgewater Beach Hotel and Marshall Field's, style shows especially for the lady guests, and the usual annual banquet.

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#### THE AMERICAN COLLEGE OF SURGEONS CLINICAL CONGRESS

The American College of Surgeons will hold the eighteenth Clinical Congress in Boston, October 8-12. Headquarters will be at the Statler Hotel and meetings will be held in the ballroom of the Copley-Plaza Hotel and Symphony Hall. The Hospital Standardization Conference will be held in morning and afternoon sessions in the ballroom of the Copley-Plaza Hotel Monday, Tuesday, Wednesday and Thursday. An innovation this year will be the commencement of the clinics in the Boston hospitals on Monday afternoon, continuing through the mornings and afternoons of the following four days. Monday evening's program will include an address of welcome by the local Chairman, the address of the retiring President,



Dr. George David Stewart, New York, the inaugural address of the new President, Dr. Franklin H. Martin, Chicago, and the John B. Murphy oration on surgery by Professor Vittorio Putti of Bologna, Italy. Tuesday, Wednesday and Thursday evenings' sessions will be held in the ballroom of the Copley-Plaza Hotel. At the Wednesday evening meeting the visiting surgeons will be the guests of the Boston Surgical Society at a special meeting when the Bigelow medal is to be awarded. On Friday evening the Annual Convocation of the College will be held in Symphony Hall when the 1928 class of candidates for Fellowship in the College will be received. The fellowship address on this evening will be delivered by Dr. William J. Mayo. The annual meeting of the Governors and Fellows will be held Friday afternoon and will be followed by a symposium on Traumatic Surgery to be participated in by leaders in industry, labor, indemnity organizations and the medical profession. Ether Day will be celebrated in the Dome Room of the Massachusetts General Hospital on Friday when a bronze bust of William T. A. Morton will be presented to the hospital. It was in this building that ether was first administered for the production of surgical anaesthesia on October 16, 1846. Several newly completed medical motion pictures produced under the supervision of the American College of Surgeons and approved by it will be shown during the Congress. Reduced fares on the railways of the United States and Canada have been authorized to those holding a convention certificate so that the total fare for the round trip will be one and one-half the ordinary first class one-way fare. Other outstanding features will be the exhibits. In addition to the commercial exhibits the departments of the College will present scientific exhibits. A number of distinguished foreign guests of international reputation have signified their intention of attending. The Chairman of the Boston Committee on Arrangements is Dr. Frederic J. Cotton.

#### PROGRAM INTER-STATE POST GRADUATE ASSEMBLY OF NORTH AMERICA

*Atlanta, Ga., October 15, 16, 17, 18 and 19, 1928*  
*Monday, October 15*

Diagnostic Clinic—Dr. C. J. Miller, New Orleans, La.

Diagnostic Clinic—Dr. W. A. Bastedo, New York, N. Y.

Diagnostic Clinic—Dr. J. M. T. Finney, Baltimore, Md.

#### *Intermission*

Diagnostic Clinic—Dr. J. S. Horsley, Richmond, Va.

Diagnostic Clinic—Dr. D. C. Balfour, Rochester, Minn.

Diagnostic Clinic—Dr. L. R. DeBuys, New Orleans, La.

#### *Noon Intermission*

Diagnostic Clinic—Dr. J. F. Erdmann, New York, N. Y.

#### *Symposium on Gastro-Intestinal Diseases*

"Methods of Diagnosing Diseases of the Esophagus"—Dr. P. P. Vinson, Mayo Clinic, Rochester, Minn.

"Principles of Gastric Surgery"—Dr. D. C. Balfour, Rochester, Minn.

#### *Intermission*

*Symposium on Gastro-Intestinal Diseases—(Continued)*

"Recent Advances in the Treatment of Intestinal Obstruction"—Dr. T. G. Orr, Kansas City, Mo.

"Diverticulitis and Its Surgical Treatment"—Dr. J. M. T. Finney, Baltimore, Md.

"Diagnosis of Diverticulosis and Diverticulitis"—Dr. J. T. Case, Battle Creek, Mich.

"Some Principles of Intestinal Surgery with Especial Reference to the Physiology of the Intestines"—Dr. J. S. Horsley, Richmond, Va.

"The Clinical Aspect of Congenital Mesenteric Malformations in Children"—Mr. G. E. Waugh, M. D., F. R. C. S., London, England.

"Chronic Appendicitis"—Dr. J. B. Deaver, Philadelphia, Pa.

"Cancer of the Colon"—Mr. Charles Macauley, F. R. C. S., Dublin, Ireland.

#### *Dinner Intermission*

*Symposium on Gastro-Intestinal Diseases—(Continued)*

"Mucous Colitis"—Dr. W. A. Bastedo, New York, N. Y.

"Malignancy of the Large Intestine"—Dr. J. F. Erdmann, New York, N. Y.

Address—Dr. J. S. McLester, Birmingham, Ala.

"Observation on the Functioning Human Breast"—Dr. L. R. DeBuys, New Orleans, La.

"A General Consideration of Cesarean Section"—Dr. C. Jeff Miller, New Orleans, La.

Address—Sir James Dundas-Grant, F. R. C. S., London, England.

#### *Tuesday, October 16*

Diagnostic Clinic—Dr. F. W. Marlow, Toronto, Canada.

Diagnostic Clinic—Dr. J. O. Polak, Brooklyn, N. Y.

Diagnostic Clinic—Dr. H. H. Cabot, Ann Arbor, Mich.

#### *Intermission*

Diagnostic Clinic—Dr. J. B. Deaver, Philadelphia, Pa.

Diagnostic Clinic—Dr. Wm. E. Lower, Cleveland, O.

Diagnostic Clinic—Dr. W. B. Coley, New York, N. Y.

#### *Noon Intermission*

Diagnostic Clinic—Dr. P. P. Vinson, Rochester, Minn.

#### *Symposium on Malignant Diseases*

"The Importance of Return to the Principles of Halsted's Complete Operation for Cancer of the Breast"—Dr. J. C. Bloodgood, Baltimore, Md.

"Diagnosis, Prognosis and End-Results of Bone Sarcoma"—Dr. W. B. Coley, New York, N. Y.

*Intermission*

*Symposium on Diseases of the Genito-Urinary Tract*  
 "Relation of Urologic Diseases to Internal Medicine"—Dr. H. G. Beck, Baltimore, Md.

"Genito-Urinary Tuberculosis"—Dr. H. H. Young, Baltimore, Md.

"Surgery of the Ureters"—Dr. Wm. E. Lower, Cleveland, Ohio.

"A Consideration of Newer Diagnostic and Surgical Procedures in the Bladder and Posterior Urethra"—Dr. J. F. McCarthy, New York, N. Y.

"Some Problems of Pyelitis in Children"—Dr. Hugh Thursfield, F. R. C. P., London, England.

"Diseases of the Kidneys"—Dr. V. C. Hunt, Rochester, Minn.

Address—Dr. Edmund L. Gros, Paris, France.

*Dinner Intermission*

*Symposium on Diseases of the Genito-Urinary Tract*  
 —(Continued)

"Some Considerations Relative to Congenital Deformity of the Lower Genito-Urinary Tract"—Mr. A. Ralph Thompson, F. R. C. P., London, England.

*Symposium on Gynecology*

"Significance of Chronic Pelvic Pain in Women"—Dr. F. W. Marlow, Toronto, Canada.

"Surgical Complications of Pregnancy"—Dr. J. O. Polak, Brooklyn, N. Y.

"Fundal Hysterectomy"—Dr. O. Beuttner, Geneva, Switzerland.

Address—Dr. W. A. White, Washington, D. C.

"Mucosal Irritability and Its Significance"—Mr. William Ibbotson, F. R. C. S., London, England.

*Wednesday, October 17*

Diagnostic Clinic—Dr. Harlow Brooks, New York, N. Y.

Diagnostic Clinic—Dr. W. D. Haggard, Nashville, Tenn.

Diagnostic Clinic—Dr. V. C. Hunt, Rochester, Minn.

*Intermission*

Diagnostic Clinic—Dr. C. A. Hamann, Cleveland, O.

Diagnostic Clinic—Dr. W. E. Dandy, Baltimore, Md.

Diagnostic Clinic—Dr. E. P. Joslin, Boston, Mass.

*Noon Intermission*

"Echinococcus Cysts"—Dr. D. J. Cranwell, Buenos Aires, Argentina.

"The Nature of Disease"—Mr. J. E. R. McDonagh, F. R. C. S., London, England.

"The Emergency Function of the Spleen"—Dr. W. B. Cannon, Boston, Mass.

"Choice of Anesthetic Methods with Relation to (1) Age of Patient; (2) Location of Disease; (3) General Condition of Patient"—Dr. H. H. Cabot, Ann Arbor, Mich.

"Surgical Treatment for Auricular Fibrillation Occurring in Toxic Goiter"—Mr. T. P. Dunhill, F. R. C. S., London, England.

*Intermission*

*Symposium of Diseases of the Respiratory System*

"Surgical Treatment of Abscess of the Lung"—Dr. G. P. Mueller, Philadelphia, Pa.

"The Value of the Heavy Metals in the Treatment of Tuberculosis"—Dr. L. S. T. Burrell, London, England.

"The Treatment of Tubercular Empyema"—Dr. W. L. Keller, Washington, D. C.

"Phrenico-exeresis and Thoracoplasty in the Treatment of Pulmonary Tuberculosis"—Dr. C. A. Hedblom, Chicago, Ill.

"The Significance of Chronic Hoarseness in Adults"—Dr. J. M. Waugh, Cleveland, O.

"Anaphylaxis"—Professor L. S. Dudgeon, F. R. C. P., London, England.

*Dinner Intermission**Public Meeting*

"Poliomyelitis"—Dr. W. D. Ayer, Syracuse, N. Y.  
 "Diabetes in Children"—Dr. E. P. Joslin, Boston, Mass.

"Pneumonia"—Dr. Harlow Brooks, New York, N. Y.

Address—Dr. W. D. Haggard, Nashville, Tenn.

*Thursday, October 18*

Diagnostic Clinic—Dr. C. A. Elliott, Chicago, Ill.

Diagnostic Clinic—Dr. A. D. Bevan, Chicago, Ill.

Diagnostic Clinic—Dr. C. H. Frazier, Philadelphia, Pa.

*Intermission*

Diagnostic Clinic—Dr. F. H. Lahey, Boston, Mass.

Address—Mr. Farquhar Macrae, F. R. C. S., Glasgow, Scotland.

"The Effects of Intestinal Protozoa"—Dr. K. M. Lynch, Charleston, S. C.

"Pellagra of Today"—Dr. S. R. Roberts, Atlanta, Ga.

*Noon Intermission*

*Symposium on Diseases of the Gall-Bladder and Liver*

Diagnostic Clinic and Address on "Cirrhosis of the Liver"—Dr. J. L. Bollmann and Dr. A. M. Snell, Rochester, Minn.

"Some Complications After Gall-Bladder Operations"—Dr. C. A. Hamann, Cleveland, O.

"Surgical Lesions of the Common and Hepatic Ducts"—Dr. F. H. Lahey, Boston, Mass.

*Intermission*

"Glaucoma—Our Surgical Resources for Its Relief"—Dr. L. W. Fox, Philadelphia, Pa.

*Symposium on Diseases of the Brain and Central*

*Nervous System*

"Surgical Treatment of Trigeminal Neuralgia"—Dr. C. H. Frazier, Philadelphia, Pa.

"Localization of Brain Tumors"—Dr. H. C. Naffziger, San Francisco, Calif.

"The Diagnosis and Treatment of Spinal Cord Tumors"—Dr. W. E. Dandy, Baltimore, Md.

"Surgery of the Spleen"—Dr. A. D. Bevan, Chicago, Ill.

"A Useful Syndrome in the Clinical Recognition of the Syphilitic"—Dr. W. W. Graves, St. Louis, Mo.

"Deviations from the Standard"—Dr. Otto F. Leyton, F. R. C. P., London, England.



*Dinner Intermission*

Address—Mr. J. Howell Evans, F. R. C. S., London, England.

Address—Dr. C. A. Elliott, Chicago, Ill.

Address—Mr. Archibald Young, F. R. C. S., Glasgow, Scotland.

"Clinical Significance of Albuminuria"—Dr. Jack Witherspoon, Nashville, Tenn.

Address—Dr. Morris Roch, Geneva, Switzerland.

Address—Mr. Donald Core, F. R. C. S., Manchester, England.

*Friday, October 19*

Diagnostic Clinic—Dr. L. F. Barker, Baltimore, Md.

Diagnostic Clinic—Dr. D. D. Lewis, Baltimore, Md.

Diagnostic Clinic—Dr. H. A. Christian, Boston, Mass.

*Intermission*

Diagnostic Clinic—Dr. John Phillips, Cleveland, O.

Diagnostic Clinic—Dr. G. W. Crile, Cleveland, O.

*Symposium on Disease of the Heart and Circulatory System*

"Cardiolysis for Chronic Mediastinopericarditis"—Dr. E. S. Smith, St. Louis, Mo.

"Classification of Hypertension"—Dr. J. B. McElroy, Memphis, Tenn.

*Noon Intermission*

*Symposium on Disease of the Heart and Circulatory System—(Continued)*

"The Myocardium in the Acute Infections"—Dr. Harlow Brooks, New York, N. Y.

"Cardiovascular Syphilis"—Dr. A. D. Warthin, Ann Arbor, Mich.

"The Treatment of Myxedema in Relation to Circulatory Disturbances"—Dr. H. A. Christian, Boston, Mass.

"Coronary Thrombosis"—Dr. John Phillips, Cleveland, O.

Address—Mr. L. L. Cassidy, F. R. C. S. I., Dublin, Ireland.

"Acute Osteomyelitis"—Dr. D. D. Lewis, Baltimore, Md.

Address—Sir Farquhar Buzzard, F. R. C. P., Oxford, England.

Address—Dr. G. W. Crile, Cleveland, O.

"The Spastic Colon and Its Concomitants"—Dr. L. F. Barker, Baltimore, Md.

"Cause and Treatment of Peptic Ulcer"—Dr. C. H. Mayo, Rochester, Minn.

**STERILITY IN THE MALE**

Rr. Robert Cowen of Detroit, Mich, has an article under the above caption in the July number of the *Urological Cutaneous Review*. We quote:

Sterility in the male is a very definite pathological entity. The determination of its basis, and the selection of its surgical remedy should be quite an exact science. It is normal only after the male climacteric and before puberty. Geriatric sterility may have its inception long before the impotence consequent to the endocrinal changes normal to advanced age.

The incidence of sterility in the male is estimated at from 20 to 33⅓ per cent. of all childless marriages. (20), (21), (22), (23), (24). Still, in the presence of such figures, prominent gynecologists are frequently guilty of subjecting their unfortunate women patients to one or more Rubin insufflation tests, treatment for hyperacidity of the vaginal secretions, and even to laparatomies, following the customary cervical instrumentation, without as much as casual inquiry as to the state of fertility of the husband.

The causes of sterility, other than the possibility of specific incompatibility of the sperm of one individual with the specific protein of the ovum of another, or the antigenic effect of the serum of the female for that of the male spermatozoa, (2), (8), (19), (25), can be classified:

*Azoospermia—*

(a) Malformations: Testicles, Vas deferens, Seminal vesicles, Epididymis, Urethra, Bladder.

(b) Hypoplasia: Anatomical, Endocrinal.

(c) Atrophy, Trauma: Varicocele, Mumps, etc.

(d) Obstruction: Any part of the genital tract.

*Oligospermia*

Necrospermia: Exhaustion from physical or sexual excesses. Inflammation of any part of the genital tract. Obstruction at any part of the genital tract.

Impotence, though frequently associated with decreased fertility, is never a cause of sterility. Successful artificial impregnations from aspirated spermatozoa from the testicle, injected directly into the uterus without any sexual excitement, is reported. (8).

The diagnosis of sterility is accomplished by the examination of semen obtained: (a) By massage of the seminal vesicles. (b) From the ejaculate taken from a condom after coitus or artificially induced orgasm. (c) From the semen after being deposited in the vaginal *cul-de-sac* after sexual intercourse, or (d) from the secretion from the testis aspirated directly by needle puncture. The value of the method used increases in the order named. Examination of the expressed contents of the seminal vesicles is difficult, for if the vesicles are correctly emptied by massage the semen enters the bladder and must be recovered from there for examination; prostatic secretion only will appear at the meatus. Three careful successive examinations after appropriate periods of rest for the patient, are enough to support a report as to the presence or absence of spermatozoa.

The treatment of sterility depends upon the appropriate surgical removal of the causative factor. Malformations, congenital or acquired, such as hypospadias, strictures, etc., can often be completely remedied. Other anatomical deviations from the normal can be adjusted. The following operative procedures have been in use by the writer in the past few years but the results are not yet definite enough to report on, but they all have authoritative evidence of results showing them to be acceptable procedures.

1. Vaso-puncture. Belfield's Operation (1), (4), (5), (6), (7), (8).

This procedure flushes out the vas deferens and the seminal vesicles and proves or establishes the patency

of the ejaculatory duct. In approximately 50 per cent. of the writer's cases of seminal vesiculitis the results have been apparently curative.

2. Resection in occlusion of the vas deferens. (3). This is imperative where an occlusion exists which does not permit the passage of fluid injected into the vas.

3. Anastomosis of the vas to the epididymis. (9) Epididymovasostomy is indicated where the tail or body of the epididymis is occluded and the head is probably patent, with or without partial epididymectomy on the impervious portion. (16). This procedure is indicated with every epididymectomy that does not sacrifice the head of the organ.

4. Anastomosis of the vas to the testicle itself. Orchido-vasostomy. (9). This should be routine after epididymectomy, although the ultimate passage of spermatozoa up the vas is doubtful.

5. Synorchidopexy. (10). The ablation of the scrotal septum and the application of one testicle to the other may provide a normal vas of one side for a fertile testicle with no outlet on the other.

At present in the writer's opinion, the non-acceptable operations are:

1. Testicular aspiration and artificial impregnation. (18).

2. Catheterization of the ejaculatory ducts to determine or establish outlet from the seminal vesicles. (3), (7). In the writer's hands this is followed by traumatic epididymitis.

3. Testicular transplantation.

4. Vaso-puncture for other than obstruction of the seminal vesicle and duct. (9).

One illustrative case is here cited. Mr. A. B., (referred by Dr. Max Kohn). He is anxious to beget children at any cost or effort. This patient's wife after subjection to several tubal insufflation tests with X-ray by the most prominent gynecologist in the city, was told to report for treatments for hyperacidity of the vagina. Presenting himself to me, he gave a history of gonorrhea five years ago with unilateral epididymitis. On the one side he showed a large varicocele with a markedly atrophied testicle. On the other side there was a completely sclerosed epididymis with an apparently normal vas and testicle. Diagnosis of azoospermia was made and the following procedures recommended:

1. Vaso-puncture, to determine the potency of the vas deferens; and varicolectomy at the first operative sitting. (Local anaesthesia.)

2. Partial epididymectomy and epididymovasostomy (Ethylene anaesthesia). After waiting about 8 months for results from this operation the next step is:

3. Total epididymectomy and orchido-vasostomy on the normal testicle and a synorchidopexia on the atrophic one.

The above operations all have the weight of evidence in their favor as to their successful terminations. So far the results in the above case are to be hoped for. Meanwhile, the plea in closing this paper is for conservatism in the treatment of epididymitis. Operation is indicated if it has not subsided after a few days treatment according to the modern methods, rest, dia-

thermy, milk injections, and turpentine. Removal of the epididymis is indicated where it appears that epididymotomy will be followed by an occlusion; but anastomosis of the vas to the testicle or remaining head of the epididymis, after flushing the vas and seminal vesicle, should be routine.

1706 Stroh Building.

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2. Grazialdi, G.: *Riforma Med.* 1925, xli, 627. (Sperm Culture.)

3. Belfield: *Journ. of Urology*, 1925, xiv, 349.

4. Cumming, R. E.: *Urologic and Cutaneous Review.* Jan., 1924. (Sterility After Vas Puncture).

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6. Luys: *La Clinique.* Jan., 1922.

7. Klotz, 1895; Quoted by Belfield: *Journ. of Urology.* 1925, xiv, 349. (Contra-indications to Ejaculatory Duct Catheterization).

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14. Belfield: *J. A. M. A.*, 1913, 1867, (Vasotomy).

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25. Cowen, L. B.: *Urologic and Cutaneous Review.* Vol. xxix, No. 11, 1925. (Modern Treatment of Epididymitis).



## Original Articles

### PHYSICAL THERAPEUTIC METHODS IN OTOLARYNGOLOGY\*

A. R. HOLLENDER, M. D.

AND

M. H. COTTLE, M.D.

CHICAGO

Although the earliest official reference to the use of electricity in medicine dates back to the year 1600, it was not until the world war that modern physicians recognized the merits of this branch of therapeutics. The past ten years particularly have marked an era of distinct progress in physical therapy. During this period several of the specialties have enjoyed more successful results for a variety of conditions. No one now disputes the value of diathermy in arthritis, in certain types of pneumonia, and in numerous post-surgical affections. The specific action of ultraviolet radiations in rickets, in bone tuberculosis, and in many types of dermatological lesions is now thoroughly recognized. Ionic medication, although known for decades past, has only lately been given a thorough trial with the result that definite indications for galvanotherapy are now being established.

If physical methods of treatment have rightfully been accorded a place in medical and surgical practice, and the internist, the surgeon, the neurologist, the pediatrician and the gynecologist have accepted the adjuvant use of light, diathermy, galvanism, static and all other physical energies in their respective specialties, it is not necessary for the otolaryngologist to apologize for the application of these energies in certain ear, nose and throat affections for which some of the time-worn orthodox methods have long been known to be inadequate. It should be noted, however, that it is not the purpose at this time to introduce physical therapy as a special or new system of treatment, but rather as an adjunct to those measures which, although helpful, are often lacking in their ability to provide prompt and sometimes permanent relief. The indications for some of the physical methods are not altogether well defined, nor can we at the present argue with much more than empiric reasoning. From a clinical standpoint, however,

improved results in many aural and rhinological conditions have prompted a continued use of physical agents. By presenting our experiences and also the improved facilities which are now



Fig. 1—Application of radiant heat lamp for acute otitis media

available for the otolaryngologist, we hope to stimulate an increased interest in this field of therapy and thus extend research in the many laboratory and clinical problems which have resulted.

#### LIGHT THERAPY

Strictly speaking light therapy should imply the use of the visible spectrum only, but in this



Fig. 2—Speculum for intra-aural ultra-violet irradiation  
work it is admissible to include also the invisible or ultraviolet rays.

*Radiant Heat Light.* The use of radiant heat light is indicated chiefly in the acute stage of inflammatory processes. Thus in acute otitis

\*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Moline, June 1, 1927.

media a radiant heat lamp early applied to the affected ear will promptly lessen the otalgia and often obviate further treatment. (Fig. 1.) Radiant energy thus administered, will however not replace paracentesis of the membrana



Fig. 3—Bilateral speculum of intranasal ultra-violet irradiation

tympani, if this step is definitely indicated, but will prove of equal value after this procedure has been performed. Drainage will be promoted and the disease shortened in duration. The aural discharge will change in consistency much sooner and a dry ear will be the outcome in a comparatively shorter space of time than is usually the case.

The lamp which we employ is of clear transparent glass. Radiant energy is best transmitted through such a medium because heat by penetration is quite different from heat by convection. Ordinary glass will transmit only the luminous spectrum, leaving out the invisible rays of the infra-red and ultraviolet regions. This is most desirable in certain conditions where the maximum effect of deep therapy light is wanted.

Absorption of radiant energy follows penetration when dealing with the longer wave lengths. When this energy is absorbed into living tissue, it is converted into heat—and this brings about an activation of cellular metabolism—locally over the irradiated part, and distally, because of vasomotor changes that always follow hyperemia. All the benefits of an active hyperemia such as local vigorous drainage of the affected part, relief of stasis, which is the cause

of cellular death, the disposal of morbid waste products, toxins and endotoxins, follow radiant energy. Thus, local heat from radiant light is decongestive locally or generally, because it does not permit stasis. Thermopenetration quite frequently has a bactericidal effect upon infected structures due to the fact that certain bacteria cannot live in all temperatures. Increased oxidation always follows increased metabolism. Hyperemia of the skin, with a concomitant depletion of the internal organs, produces a lowering of the blood pressure, while the respiration rate diminishes, and the respiratory exchange increases, increasing the removal of volatile waste products and carbon dioxide. Pain is relieved because of the sedative and decongestive action of heat upon nerve endings.

Radiant heat-light is indicated also in acute rhinitis and in acute sinusitis. Some of the reasons have already been mentioned. The congestion of the nasal and sinus mucosa is greatly reduced. The heat-light rays have a marked sedative effect frequently obviating the administration of analgesic drugs.

One of the important uses of radiant heat-light is in post-operative nasal treatment. After submucous resection of the nasal septum, on the



Fig. 4—Quartz rod for irradiation of posterior nares

second or third day, the application of the radiant heat lamp over the face is especially comforting. Twenty minutes of this treatment, two to three times daily, will aid materially in lessening the usual post operative symptoms, and



particularly so when the post operative reaction is severe.

**Ultraviolet Light.** Ultraviolet rays may be obtained from various artificial sources. The usual way is from carbon arc or mercury vapor quartz burners. The mercury vapor quartz lamps are more popular in this country. Two types of lamps are available, the water cooled and the air cooled. The water cooled apparatus is the one chiefly used by the otolaryngologist because with it, it is possible to convey the ultraviolet rays by means of quartz or rock crystal applicators into cavities. Recent studies have resulted in more direct methods of conveying the rays into certain cavities. Thus by means of a speculum which is attached to the window of a water cooled lamp it is possible to carry ultraviolet energy into the ear canal (Fig. 2), or into one side of the nose. For intranasal irradiation we have devised also a bilateral nasal speculum. Direct raying of the nasal membrane permits of longer treatments and more favorable results (Fig. 3).

The Quartz nasal rod may be attached by a suitable holder to the lamp window and thus employed for intranasal raying. It is more suitable for some conditions and particularly when it is desired to irradiate the posterior nares (Fig. 4). Often by combining this rod or *indirect* method with the *direct* method already described good effects may be secured.

Ultraviolet irradiations for chronic sinus disease is rational only when it is possible to carry a quartz applicator into the diseased sinus. The numerous claims of curing sinusitis by in-



Fig. 5—Active electrode over right mastoid area

tranasal ultraviolet irradiations are neither rational nor practical for obvious reasons.

Ultraviolet irradiations are of value sometimes in chronic otitis media of the suppurative type, but other forms of energy have given better

results. This phase of the subject will be considered later.

**General Ultraviolet Irradiations.** We have recently called attention to the effect of ultraviolet irradiations on some general diseases



Fig. 6—Position of indifferent electrode

which influence the ear, nose and throat. For this purpose the air cooled lamp is utilized. Raying of the body produces an initial reaction of the skin in the form of an erythema, but this reaction may be more pronounced depending on the duration of the exposure and the distance of the lamp from the body surface. The systemic effect is manifested several hours after the dermal changes appear.

The so-called nasal neuroses, particularly vasomotor rhinitis, is a definite example of an affection in which the relief of nasal symptoms can be effected without treatment directed to the nose itself. Toxic agents may produce irritation of the mucous membranes of the ear, nose and throat or may so lower general body resistance as to provoke symptoms by reflex route.

To this may be added the "depressed state" occasionally resulting from nose and throat operations. This is really a condition in which the body is definitely reduced in vitality with resultant indifferent healing response and a subsequent protracted convalescence.

There are numerous factors which must be considered in ultraviolet raying of the body for the production of some special systemic action. These need not be discussed here because the literature is replete with reports of able experimental and clinical investigators.

#### DIATHERMY

The various indications in ear, nose and throat diseases for the use of diathermy make it necessary to speak only briefly of the more important ones.

As is well known by those who are familiar

with this work, diathermy may be applied either by the indirect or direct methods. As an example of the indirect method a plan of diathermizing the frontal sinuses may be cited. The technician fastens the cuff electrode around the wrist of one hand and the patient lies on the autocondensation pad which acts as the indifferent electrode. After the machine is in operation the technician gently massages the skin areas over the frontal sinuses with the cuffed hand which in reality is the active electrode. The degree of heat desired can be easily regulated by the rheostat and the spark gap.

The direct method involves the use of metal, sponge, or mesh-covered electrodes which are fastened in some manner to the part to be diathermized. This method of applying diathermy to the eyes, the ears and the sinuses has been greatly facilitated by a device in the form of a head band to which by suitable locking or clamping posts the electrodes may be fastened



Fig. 7—Apparatus for metallic ionization in purulent otitis media

by means of rods and held firmly in contact with any part about the head. For the antrum, for instance, the smaller or active electrode is placed over the antral surface on the face and the larger or indifferent electrode is placed on the nape of the neck. If it is desired to diathermize the right ear, the active electrode is placed over the right mastoid area (Fig. 5) and the indifferent electrode on the side of the face opposite to the affected ear (Fig. 6). There are definite reasons for this method of application, and inasmuch as these have already been elaborated upon in earlier communications, they will not be included in this paper.

Diathermy may be administered also by means of vacuum, non-vacuum and graphite glass electrodes. Intranasal diathermy is of value for relieving the crustation of atrophic rhinitis. For this purpose a vacuum electrode is used. The electrode is so shaped as to fit into the nasal

chamber. The strength of the current will depend on the patient's tolerance.

When diathermy is to be applied to some superficial part covered with skin, a flat surface electrode either vacuum or non-vacuum will often serve the purpose. In such case, the indifferent electrode may be either the autocondensation pad, or a metallic cylinder which the patient holds snugly in his hands. It is claimed by some that graphite filled glass electrodes possess special advantages, but it is questionable whether they are of any added value in our specialty.

The more acceptable plan of applying diathermy for ears and sinuses is by the direct method. For intranasal work either the vacuum or non-vacuum electrode will answer depending upon the experiences of the otolaryngologist. Diathermy may be applied to other parts, such as the larynx or the neck by the direct method already described.

#### GALVANISM

Galvanism in the form of metallic ionization has a definite place in the therapy of certain intranasal and intra-aural diseases. For the reduction of large, boggy turbinates zinc ionization is of substantial value. The side of the nose to be treated should be packed with long, narrow strips of gauze saturated in a solution made of one grain of zinc sulphate to the ounce of water. Every available surface of the nasal mucosa should be covered. A copper wire attached to the positive pole of a galvanic apparatus should now be introduced in the wet packing and held firm by some dry cotton snugly packed at the nasal opening. Three to ten milliamperes of current for ten to fifteen minutes are sufficient for a single treatment, which, if necessary may be repeated in five to seven days. The good effects are not immediately apparent. There may be some slight reaction within the first twenty-four hours, after which inspection will reveal definite shrinkage of the turbinal bodies.

The sterilizing effect of zinc ionization for a chronically diseased sinus mucosa is indeed noteworthy. This procedure lends itself only for such purpose if a large intranasal opening has been made into the maxillary antrum, or post-operatively when a sinus cavity is easily accessible. The method is similar to that described for intranasal work.



The most gratifying results with zinc ionization have been obtained in chronic purulent otitis media of the uncomplicated type. If the drum perforation is central and large enough to permit the zinc solution to pass through it, the aural discharge will frequently be reduced to a minimum with one treatment.

The method has been simplified by a leather strap arrangement (Fig. 7), which encircles the patient's head and forehead. To this strap is attached a rubber ear speculum fastened on a ball and socket joint and easily movable and adjustable to any desired position. The speculum is fixed tightly by a clamp screw after being introduced into the affected ear. The speculum is then filled with a weak zinc solution to a point where contact is made by a small rod, to which is connected the positive wire leading from a galvanic apparatus. The indifferent electrode is a moist pad which is attached to the forearm or any other body surface. To this indifferent electrode the negative pole is attached. Now the circuit is complete. Two to four milliamperes of current are passed for ten minutes. It should be stated that this method assumes a preliminary cleansing of the ear canal. If irrigation is necessary for this purpose the same weak zinc solution which is used in the ionization work will probably be more satisfactory than water.

Friel has treated over six hundred (600) patients with zinc ionization and gives some very interesting reports of successful results obtained in a large percentage of the cases. Our own series comprises over fifty cases with cessation of aural discharge in more than sixty per cent.

#### SUMMARY AND CONCLUSIONS

1. Improved results in many aural and rhinological conditions have prompted a continued use of physical agents.
2. Radiant heat-light is indicated chiefly in acute inflammatory processes.
3. Ultra-violet energy has given encouraging results in nasal and aural affections and also in some general diseases which influence the ear, nose and throat.
4. Diathermy may be applied either by the direct or indirect methods to the nasal accessory sinuses, the ears, the larynx or to other parts.
5. The direct method has been greatly simplified by special apparatus and electrodes.

6. Metallic ionization has been employed with good effects in some intranasal and intra-aural diseases but has given the most gratifying results in chronic purulent otitis media of the uncomplicated type.

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#### DISCUSSION

Dr. F. L. Alloway, Champaign: It is not many years since some of the most prominent physicians in the United States said that bath tubs would be the ruination of the country. The same thing applies in this case and I do not think it is just, at this time, to hop on diathermy. There have been wonderful things demonstrated in government work, in private practice and in our own clinics, and why should they be cast aside for the methods that have been in use so many years? Like washing out with peroxide—I think diathermy is better than that. We never treat deafness without making a diagnosis so far as we are capable, and we treat it accordingly. There is one thing I would like to caution you about. There are dangers connected with diathermy about the head. I had three cases of senile cataract where frontal sinus treatment was given by diathermy after the sinus was opened; these senile cataracts came to maturity in three weeks. You must examine the lens in older patients for senile cataract before treating with diathermy.

Dr. Harry Pollock, Chicago: I wish to correct Dr. Hollender's statement that I condemned galvanism and diathermy which he can confirm by looking up the literature. I do condemn, however, reports that are issued without any statistics as to diagnosis. I want to corroborate most of the statements made by the speaker since I have had similar results. In a previous paper I made the statement that every new mechanical device is used in altogether too many pathological con-

ditions for the reason that the manufacturers claim excellent results in all sorts of diseases (another selling inducement). We have tried out all sorts of physio-therapy apparati and we find a great many of them useful in a limited number of conditions, as for example; diathermy, ultra-violet radiation, radiant heat, etc. I have never used zinc ionization and know nothing personally of its use but reports from reliable authors of literature are very favorable.

Dr. A. R. Hollender, Chicago: Although the present methods of applying physical therapy in Eye, Ear, Nose and Throat work are quite satisfactory, there is no doubt but that improvement will be made from time to time. No one will dispute the fact that in order to obtain good results, careful technique is an essential factor. The reasons why many physicians have obtained poor results thus far, are quite obvious to those who are using the utmost care and diligence in the application of proper technique. I should like to call attention at this time to the preliminary work with ultraviolet irradiations in hyperesthetic rhinitis. Many of you will recall the original report which was published in the *Journal A. M. A.*, in December, 1923. These investigations were conducted by Dr. Frank J. Novak, Jr., of Chicago and myself. Several otolaryngologists have obtained equally good results in hyperesthetic rhinitis with ultraviolet light. I should like to mention in particular, the recent report of Drs. Beck and Pollock, published in the *Annals of Otology*. Drs. Beck and Pollock were able to render symptomatic free, all of a series of twenty-five cases of hyperesthetic rhinitis. There certainly can be no more convincing evidence than this, that ultraviolet light acts in some way to alter the metabolic factors involved in hyperesthetic rhinitis, and in so doing to ameliorate the disagreeable symptoms of this baffling affection.

It should be emphasized again that proper technique is the all essential feature. Those of us who are employing physical therapy in Eye, Ear, Nose and Throat practice are doing so, not because we are physiotherapists; primarily we are otolaryngologists. However, if we can obtain better results by adding the use of physical agents to some of the older methods, which have not been altogether satisfactory, we believe that we are giving our patients the benefits of some of the procedures which scientific medicine has advanced during the past decade.

## CHRONIC ARTHROPATHIES\*

CHARLES P. EMERSON, M. D.

INDIANAPOLIS, INDIANA

The medical wards of the Hospitals of Indiana University, like those of all State clinics I presume, were from the first besieged by no one group of patients more frequently and more insistently than by those suffering from chronic

arthritis. At first we used every possible tactic to avoid receiving these patients, on the grounds that we could do so little for them, that they were likely to occupy the beds for months instead of for weeks, etc., but later this group became so interesting to us that now we not only welcome them but even through our *State Medical Journal* have asked the doctors to send more of them. As a result we have come into contact with a group of over 400, of cases of varying interest, some of whom have remained in our wards for from one to twenty-four months, and many of whom have returned twice or oftener.

In the few minutes now at our disposal we can touch on but a very few points of this extensive subject and so will limit ourselves chiefly to one single group, that of those cases which from the first show trophic disturbances leading to atrophic lesions. We would at the outset state that we still follow the old nomenclature and use the term arthritis deformans for all forms of chronic symmetrical poly-arthritis which lead to visible deformities of the joints and which are not due to a known infection (as tuberculosis, lues and the gonococcus). We recognize that these cases may be divided on the basis of their external and Roentgenological manifestations into the hypotrophic and atrophic groups, but we reserve the term atrophic arthritis for the cases which from the first have shown trophic disturbances: paresthesias, atrophy of the muscles, trophic changes in the skin of the finger tips and nails and, especially, thinning of the joint cartillages. We recognize, as pathologists and Roentgenologists have pointed out, that atrophy is a process sooner or later common to all types, and that some cases which clinically belong in the so-called infectious group (because of the history of early acute inflammatory periods, of their association with tonsillitis and sinusitis, and the presence of definitely infectious complications and sequelae, such as bronchitis, bronchopneumonia, endocarditis, etc.) may finally present a clinical picture similar to that described above. Excluding these cases there is, nevertheless, a group which, judged especially by their earlier stages and their later clinical course, deserves the special designation "atrophic arthritis."

It will be necessary at this point to mention

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etiology, but only in passing, since one's methods of treatment must in some degree be influenced by his working hypothesis as to the cause of the condition he is to treat. Nevertheless, we use the word "cause" much more guardedly than we did a few years ago. We now speak of "groups" or "chains" of etiological factors. We know, for illustration, that *Bacillus typhosus* is the specific etiological factor in the causation of typhoid fever, but we also know that *Bacillus typhosus* alone cannot "cause" typhoid fever, that is, not unless the patient is susceptible. We know that *Bacillus tuberculosis* is the specific etiological factor of the disease we call pulmonary tuberculosis, and yet this organism does not always attack the lung of each patient it infects. That is, individuals differ in their susceptibilities to pathogenic organisms, but also the different tissues of the same person have different susceptibilities to the same germ.

The chronic arthropathies give us excellent illustrations of the importance of the differing susceptibilities of different individuals, as well as of the differing susceptibilities of the different tissues of these patients; also of those differences in the reactions of the tissues to infection or injury which determine whether the result shall be an hypertrophy with inflammatory exudate, an atrophy, etc.

Recently, also, our ideas of etiology have undergone another important modification, for we have learned to recognize that many infections are not the single process we had imagined them to be but are complex. For this reason we speak of the "team play" of organisms; or we use the following still better illustration borrowed from agriculture. The farmer in order to obtain a crop must first plow, then harrow, then sow, and then cultivate, if later he may reap. These five processes are very different and yet they must follow each other in one definite sequence. So, in the production of a chronic atrophic arthropathy, we can see evidences of several etiological factors following each other in definite sequence: injury, infection, emotional distress, endocrine disturbances, secondary infections, etc.

Since our attention was called to the importance of focal infections, it has been assumed that all forms of chronic arthritis were due to some infection, hence the favorite treatment has

been to remove tonsils, pull teeth, drain nasal sinuses, remove the appendix, drain the gall bladder, mutilate the prostate or female pelvic organs, etc.

While the cases of the so-called primary atrophic chronic arthritis often do give a suggestive history of preceding infections, yet this history is not as definite as in those of the hypertrophic group. Certainly infected tonsils, infected teeth, etc., should receive radical treatment, for injured joints are splendid points of least resistance, and germs which were not the plow may, like the harrow, add to the injury of the joint. Nevertheless, proof of infection in these joints is hard to obtain. Our bacteriologists have made repeated blood cultures, but with very little success. True, they were isolated organisms from the blood, but have been unable to convince themselves that these were the pathogenic agents which started the arthritis. They have made cultures from the fluid within the joint and from the tissue lymph around the joints, and with the same success. They have removed enlarged lymph nodes which must drain the infected joints, and with variable success. We have repeatedly tried vaccine treatment, both stock and autogenous, we have used the nonspecific proteids, all without convincing result. Our chemists also have estimated the blood calcium only to find it normal: they have determined quantitatively the blood lactic acid too, and found that normal also.

When considering focal infections we recognize the importance of the small buried tonsils which for years may have given no symptoms (indeed, some tonsils would seem to do more harm after they have ceased causing attacks of local sore throat, for the reason, possibly, that when buried the infection reaches only the blood stream); and now we stress the infections of the posterior nasal sinuses also. Indeed, it is only about two years ago that Granger proposed a method of x-ray examination which adequately reveals the condition of these posterior ethmoidal and sphenoidal sinuses, the condition of which often cannot be determined by direct examination or by transillumination. Also, we feel that the mediastinal lymph glands, and especially those at the hila of the lungs, deserve more attention since they are often infected by the sinuses. To

demonstrate them we use the lateral as well as the anteroposterior views of the chest. And so we study all the other foci of infection. Nevertheless, we do not recommend an operation on a focus of infection because the patient has arthritis, but only when the condition of that focus is such that we would recommend the operation even though the patient were otherwise quite well. Again, we recognize that the joints themselves may be important foci spreading the infection to other joints. This may explain the post-traumatic cases. In these, following an injury to a single joint, an arthritis develops which may for several months remain limited to that joint. Then, in an almost explosive manner, the arthritis involves many other joints as well.

Of course we have seen splendid results immediately following such operations. We are mindful of the woman helpless with chronic arthritis who, the evening after her teeth were pulled, walked down stairs for the first time for weeks and joined her delighted family at the dinner table, etc. One of our worst cases was so surprised at the general improvement which followed immediately the removal of one epitrochlear gland for bacteriological purposes that she begged us to operate on the other elbow also. We have seen even more striking improvement to follow general anesthesia without any operation at all. Such temporary remissions are very spectacular but deceptive. They explain, we presume, some of the miracles of quacks and of faith cure healers, and, in some measure also, the piles of abandoned crutches and canes at shrines; but, more important to us, they encourage us to study the importance of the emotional element in determining the clinical features of chronic arthritis, believing that this may prove to be an important element of our future therapy.

In the clinical picture presented by some of the cases of atrophic arthritis which have interested us most an endocrine element often is present. It is well known that these cases often begin during, and that their course is markedly modified by, pregnancy and the menopause. Recently we have become much interested in cases which followed periods of great emotional distress, believing these to belong to the endocrine group since the glands of internal secretion would seem to be liaison mechanisms between the emotional life and the physical body.

The importance of the gastrointestinal canal in controlling the clinical picture of many cases of chronic arthritis, whatever the primary etiology of the cases may have been, has long been recognized. Certainly the influence of constipation is often evident, while others ascribe their acute exacerbations to periods of diarrhea. Some speak of the immediate influence on the arthritis of certain foods, using in this connection such terms as "sensitization," "anaphylactic reaction," "proteid shock," etc., terms which we feel are quite unwarranted. While we would by no means deny the possibility, yet in the cases of chronic arthritis we have never been able to convince ourselves of the presence of any specific susceptibility to certain foods, or of any phenomena which deserve the term "anaphylactic." For illustration, the young woman whose arthritis was worse after tomatoes, strawberries and citrus fruits, stood without reaction large doses of sodium citrate injected directly into her veins; the use of a variety of non-specific proteids has not developed any interesting reactions, etc. To us, however, the subject of the flora of the bowel is interesting, and the theory that various foods affect the body by modifying this flora is attractive. For this reason we begin our treatment by attempting to crowd out from the bowel as completely as we may be able all gram-positive organisms by a pure buttermilk diet of at least four quarts a day, for periods of at least one week long, and the results are at least encouraging.

The results of our treatment would indicate that of the entire series of cases of chronic arthritis 43% improved much, 38% slightly, and 19% not at all.

In the therapy one of the most important general measures is psychotherapy. The patient's worries must be relieved; the patient must be encouraged. He must undertake with enthusiasm physical exercises which are disagreeable and painful. He must have faith that they will be successful. We often say that the one willing to shed the most tears (on account of pain) will get the best results. He must not be allowed to "stagnate in bed." There is no surer way of making the disease progressive.

We recommend that, before we begin our treatments, all definite focal infections be removed or drained. Nevertheless, no matter how serious or how hopeful the arthritis we do not operate on



any focus unless we would do so also were the patient otherwise well. That is, each focus must be decided on its own merits and not on the basis of its possible relationship to the arthritis. If the surgeons will work rapidly, even though the work be less well done, we get better results and with fewer reactions after the operation than if they work with better attention to details.

Our diet begins with one week of buttermilk only, at least 4 quarts a day, attempting in this way to modify the flora of the bowel. After that the diet is more liberal, and planned as for any case we are trying to "build up."

Physical therapy is of great importance. Heat is used in any form, but with the one purpose of relaxing the muscles and diminishing the pain. This is important since, after all, the real therapy resides in the active and passive movements of the affected joints. Anything, therefore, which makes possible more motion is of benefit, and heat is excellent for this. The ultraviolet light is useful for its general tonic effects. Exercise is required at prescribed intervals, up to the point of fatigue. Exercise, however, does not necessarily mean walking, for one reason why the hips, knees and ankles are so often most involved is that the weight of the body is brought to play on these joints with each step. The patient is asked, therefore, to exercise the lower extremities while lying flat on his back in bed, making with them movements similar to the calisthenic movements of the upper extremities. It is the amplitude of the motions which we seek to increase, not directly their strength. If these exercises are followed by fatigue or pain which lasts more than an hour, or if they cause a little fever, they are discontinued for a while, then resumed, but with less vigor. Mere pain is no contraindicator. We urge them to the limit, always requiring of the patient that which seems to him unreasonable and impossible. We have tried all autogenous and all stock vaccines but without definite benefit. Of the medicines we use amidoxyl intravenously, asparin, arsenic, and, especially, cod liver oil. The improvement is slow but in the long run the results are encouraging.

#### DISCUSSION

Dr. D. E. Markson, Chicago: We all should congratulate Dr. Emerson for his very excellent summary of the progress in the treatment of chronic arthritis.

He has covered the most important newer developments quite thoroughly.

Arthritis is certainly a puzzling problem, particularly from the economic side of the question. In England the Industrial Commission is paying out two million pounds a year as a result of crippling due to arthritis. In London alone, 60,000 are pensioned yearly as result of this disease. In Denmark 10% of the total male population is affected with chronic rheumatism. In Sweden, it represents 9.1% of permanent disability. In this country it represents an incidence greater than that of tuberculosis.

An international committee representing six countries meets once a year in London to discuss the newer phases of chronic rheumatism. In this country the contributions and tabulations from the many clinics would fill volumes.

Heredity seems to play some role. There is something inherent in the cartilages or joint structure which predisposes to arthritis. Dr. Ross has shown, in a small series, that children born of rheumatic parents are more susceptible to rheumatism and arthritis than those of non-arthritic parents. He advises early removal of foci of infection in these children.

At the Northwestern University clinics we have handled approximately four hundred cases of chronic arthritis. For the purpose of clinical classification we use that of Goldthwait: Atrophic, hypertrophic and chronic infections types of arthritis. Dr. Emerson has pointed out the many etiologic factors now considered in chronic arthritis. I want to add to his list the work of Eli on the ameba as a causative factor. He claims he can demonstrate ameba in the stools of 60% of the cases of chronic arthritis where five consecutive stools are examined. He further claims emetine relieves these patients. We have not been able to confirm this work at the clinic. Intestinal stasis has been given a great deal of prominence by Rea Smith of Los Angeles. The work of Burbank, of New York, probably has something of value. I am sorry Dr. Mayer did not take this up in his discussion. Metabolic studies of two hundred cases has led us to the same conclusions arrived at by other observers. It is helpful but not conclusive.

Because of our limited time, I want to add just a few points regarding the treatment. Physiotherapy, as Dr. Emerson suggested, is of definite value if properly carried out in a well organized department. Amiodoxyl benzoate is of definite value in treatment of infectious arthritis. Arsenic in the form of Fowler's solution, by mouth, should be given to every patient, or in the form of neosalvarsan intravenously in increasing weekly doses. Sulpharsphenamine intramuscularly to the older patients, with arteriosclerosis. We are also trying occupational training with the idea of helping establish function in the affected joints. In a few cases we have been able to re-occupation them to work best suited to their condition.

In conclusion, we agree with Dr. Emerson in that a well organized clinic offers the best place to treat chronic arthritis.

Dr. Rosalie M. Ladova, Chicago: I have greatly enjoyed the address of Dr. Emerson and for one reason: His stand seems to be so broad and original. All the time I have been in the practice of medicine I have felt that the psychic element was not taken into account by many physicians who are practicing. It seemed that the practice of medicine was a mechanical process. We take the laboratory findings, make the physical examination, then we make our diagnosis and we treat the disease. Surely our mind plays a very important part in our lives and is an important element in disease.

The point that he brought out that a serious accident entailing extreme fear or an emotional experience, causing mental depression, would affect a patient's resistance, interfere with normal metabolism and make him more liable to arthritis or some grave nervous trouble, I think is very well taken. I believe that if doctors considered the psychic condition, the psychic experiences of their patients and especially the women, who are more sensitive and emotional and are more given to different psychic troubles, they would do a great deal better and I think the profession would be better able to keep the great proportion of the public that deserts our profession and goes to the other workers in the field who do consider the mind and study the mind and psychic experiences of the patients that they read. Psychic disturbances furnish a fertile soil for quackery and cults of all kinds.

Dr. Lawrence H. Mayers, Chicago: I was very glad to hear Dr. Emerson say that he has treated about four hundred arthritics. I think it is necessary for a man to treat about that many cases before he realizes what the problem is.

In any discussion of arthritis the most difficult thing is to try to find out what type of arthritis the individual is discussing, and we recognize that there are almost as many ways of treating arthritis as we find classifications for the malady. In a discussion of percentages of the various classifications of cases and results, it is difficult to get the type of information that we want. In the first place, we ought to know the age of the patient, the duration of the disease in years; whether the patient has had the disease for one year or less, one to three years, three to five years, five to ten years or more; the length of treatment in months, whether they have been treated one to three months, three to six months, six to nine months, nine to twelve months, or more than twelve months. We should also know the number of cases that receive no relief, those that show no improvement and a description of what we mean by improvement, much improved, and symptom-free. I appreciate the fact that it is difficult to use the word cured for a chronic disease.

Dr. Emerson told us that in one group of cases he obtained thirty per cent. of good results and forty-seven per cent. of good results in another group. In order that we can compare Dr. Emerson's work with the work of others, we should know the type of arthritis he refers to, whether it is atrophic, hypertrophic, or mixed. The term "arthritis deformans" does not fully describe the clinical picture of these patients. For

example, we know we have a different problem to deal with when we are treating a patient who has had arthritis for one month or six months, than when treating a patient who has had the disease for more than ten years. About thirty per cent. of arthritics do well without treatment, but the larger part of this percentage have had the disease for months rather than years.

In regard to the foci of infection most of the arthritics who have had the disease for a period of a few years, have had various foci of infection removed. In a group of four hundred patients it would be interesting to know how many of these patients have had teeth extracted, tonsils removed, gall-bladders removed, and sinuses drained with or without relief; or when a focus of infection was disturbed did it light up the condition or did it make the condition worse or better and what was the interval. In listing all the operations and various painful procedures that are done to find the foci of infection we must realize that, in many instances, searching for the cause is more hazardous and painful than having the disease. It is difficult to get results in any disease when both the methods of diagnosis and treatment are so painful and debilitating, and more especially when they require a long period of hospitalization.

In carrying out various surgical procedures more care should be taken in selecting suitable risks, for example—when an arthroplasty is resorted to on a weight bearing joint, it is important to know whether or not the patient has sufficient strength and freedom from arthritic changes in his shoulders and wrists to prevent the use of crutches and canes during his convalescence. Such a procedure would make a patient permanently disabled.

It is interesting to point out the great number of arthritic patients who have had the disease for a number of years, that have run the full gamut of medical and surgical procedures. This means that there is a psychological factor to be considered. A fear complex must be overcome because most of these patients have had major surgery, prolonged hospitalization for traction, for casts, for physiotherapy, for foreign protein shocks; years of medical treatment both at home and at health resorts; also a variety of desperate regimes varying with the number of consultants. All these experiences produce a sophisticated class of patients, the like of which no other disease has to its credit. Many of these patients seek relief without the further necessity of painful treatment or hospitalization.

I sincerely believe that any man should be commended, who has the perseverance and will treat four hundred cases of arthritis, as I happen to know just how much work that is, and in view of discouragement, I think Dr. Emerson has given us a real contribution. The types of therapy that he has pointed out are definitely indicated and they should only be used in such an institution as that with which Dr. Emerson is associated.

Dr. Emerson: May I express my appreciation of the kindness with which you have received our remarks.



which concerned such a broad subject that of necessity they were expressed unguarded by necessary qualifications and perhaps less conservatively than I had intended.

Of course the diagnostic "arthritis deformans," as I said at the very beginning, is a debatable term, but we use it for those forms of chronic arthritis which are not known to be infectious and which lead to deformity. Whether there is any real difference between the atrophic or hypertrophic cases is debatable. Pathologists and roentgenologists says that both processes enter into each case and that the difference is chiefly a question of degree; but clinically there is one group of cases of atrophic arthritis which we consider a separate disease.

I must protest that I never used the term "cure." Certainly we have not "cured" forty-eight per cent. of our cases; no, not one. I said they were "greatly improved"; improved enough to go and get married; improved so that they were happy; improved enough so that they were able to return to work; but by no means were they cured.

Our highest function towards these arthropathies, however, is to stop them as early as possible, and prevent all the disability possible. After they have developed, they have, as Osler used to say, a silver lining, for the chronic arthritis sooner or later stops, leaving the patient crippled. It is our duty to see that this crippling is just as slight as possible.

I only wish that Dr. Mayers had spoken more of the question of the vaccine treatment of these cases, because, while we personally have not been able to get far with it, yet we know that is the right way. We know that Nature cures her infections by autogenous vaccines; we, as yet, have not found out, however, how Nature does it, although we do know that Nature never uses a hypodermic needle. Nature has certain ways of applying her vaccines locally, I presume. I only wish the time allowed us to discuss the question of regional differences of the body to therapy. If you tell a nurse to give a patient suffering from pleurisy or angina pectoris one quarter of a grain of morphin, doubtless she will inject it into the triceps region. I don't know where she should inject it, but am pretty sure that that is the wrong place. There are certain viscerocutaneous relationships which we must study. It makes a difference just how the germ gets into the body and it makes a difference into what tissue and where we inject our vaccines.

Dr. Markson spoke of the importance of the disease arthritis. Denmark has separate State hospitals for arthritis only. America may be forced to build them sooner or later.

I feel the emotional element is very, very important, but you can't depend on the patients to aid you in this sphere, for patients do not understand their emotional states. It is just as important that a sociologist go into this question and solve it for us as it is that the x-ray man get his plates, or that the serologist apply the serum reactions for us. What the patient says may or may not be valuable; it will, however, always be help-

ful; helpful to specialized workers who know how to get the desired material.

We did not go into the question of occupational therapy. That is of value, if for nothing else, as a form of exercise, and a very interesting form it is. Our feeling is that it should be done always with a free arm movement of wide amplitude.

## MAJOR POINTS IN THE TREATMENT OF FRACTURES\*

DANIEL H. LEVINTHAL, M. D.

Attending Orthopedic Surgeon, Cook County and North Chicago Hospitals; Associate Attending Orthopedic Surgeon, Michael Reese Hospital; Associate Attending Orthopedic Surgeon, Mount Sinai Hospital

CHICAGO

The literature of the present day contains numerous articles on fractures, the reason being the ever increasing incidence of fractures as a result of the high pressure of modern industry and the daily increase in the number of automobiles on the streets and highways.

It is only during the past decade or two that real progress has been made in the treatment of fractures. Knowledge of fractures has been greatly augmented by the experiences of the World War.

In presenting this paper I am attempting to stress some of the salient points gleaned from personal experiences in the orthopedic department of the American Expeditionary Forces, and from industrial and private practice since the close of the War.

Despite our vast experience, improved apparatus, and classification and standardization of treatment by the Fracture Committee,<sup>1</sup> poor results following ordinary fractures are too frequently seen. There are several important reasons for these poor results, namely, the lack of proper preliminary instruction and training in the medical schools and hospitals, the multiplicity of procedures and confusion of ideas, the inefficient fracture equipment of the majority of hospitals, and last, the negligence of the surgeon in checking up on the position of the fragments and the efficiency of the apparatus.

*Apparatus and Equipment.* The inadequate equipment of the splint room or fracture department of the average hospital is a sad commentary on our efficiency and organization. *A fracture is a mechanical defect in a human*

\*Read before Section on Surgery, Illinois State Medical Society, Moline, June 1, 1927.

*machine.* It should be treated with the same precision and with the same objective as a defective automobile, i. e., proper tools and apparatus are necessary to restore normal function, or as nearly normal as possible.

The ordinary fracture equipment is not complicated, expensive, nor difficult to obtain, so that even the smaller hospitals have no excuse for lack of equipment. By ordinary equipment is meant, an assortment of Thomas splints for legs and arms, Jones humerus traction, cockup, elbow, knee and ankle splints, Cabot posterior, Hodgen's and board splints. Weights, pulleys, ropes, hooks and Balkan frames are also inexpensive essentials. Stockinet, sheet wadding and

plete (greenstick)? What is the contour of the part? Is the blood-supply of the extremity impaired? Is there any shortening? These and numerous other important considerations must be borne in mind in determining the choice of the method of treatment.

*Repair of Bone.* The repair of normal bone begins immediately after the occurrence of the fracture. Bancroft<sup>2</sup> has shown that in four or five days there is a beginning organization of the blood clot which always follows a fracture, and in about ten days a thick glue-like material, the early callus, is formed. This joins the bone ends and infiltrates the adjacent soft parts. Bancroft further showed that if a rabbit's bone is

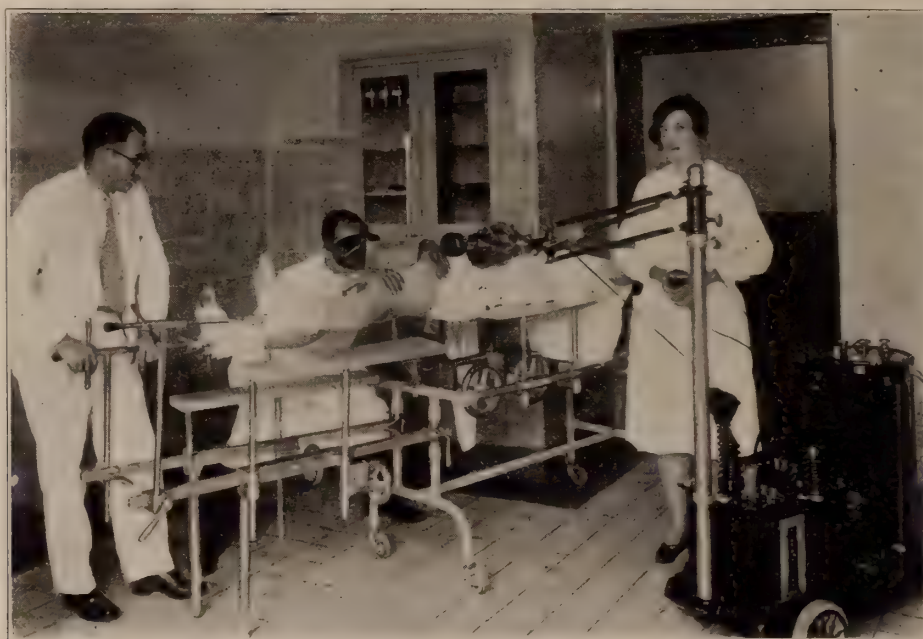


Fig. 1—Method of reduction of fractured femur on McKenna fracture table, using a head fluoroscope and portable roentgen machine

plaster of Paris bandages must always be at hand. In the writer's experience, the fracture table with the head fluoroscope and portable roentgen machine have been very valuable.

*Examination.* Before undertaking the treatment of a fracture, one must carefully consider not only the fractured part but the patient in general. The age, occupation and general physical condition may have an important bearing on the method of treatment. Is the fracture in the upper or in the lower extremity? Is it in the shaft or near or into the joint? Is it simple or compound? Is it complete or incom-

broken and the fragments are allowed to override, it is almost impossible to draw these ends down to overcome the shortening after seven days, *even after excising the surrounding muscles.* This important experiment shows the peculiar consistency and characteristics of callus, and shows why it is so often impossible, even with the patient under an anesthetic, to reduce such a deformity. Maximum continuous traction exerted over a considerable period of time will usually overcome this.

There is an internal, intermediate and external callus formed. The temporary callus is



large and soft, but as the lime salts are increased and more dense bone forms, the callus shrinks and becomes firmer. *The greater the comminution of the bone, the greater the callus.*

#### TREATMENT

Before attempting to treat fractures, one should have a thorough knowledge of the anatomy and

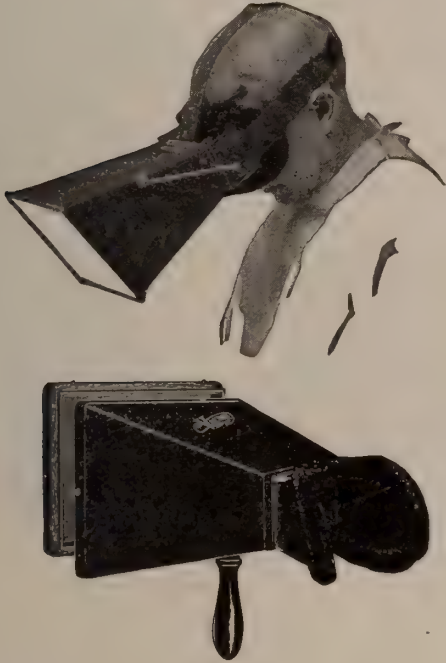


Fig. 2—(a) Operating Fluoroscope; (b) Hand Fluoroscope

physiology of the parts, and an understanding of the principles of mechanics. An interesting, instructive text-book of physics, such as that of A. Wilmer Duff, is invaluable to those who treat fractures.

Our aim in the treatment of fractures should be to obtain, as nearly as possible, anatomical reposition of the fragments, and to *maintain* this position by proper splinting until union occurs.

It may be stated as a general rule that *the closer the fracture is to a joint, the more imperative is the anatomical reposition of the fragments.*

Mal-union, delayed union and non-union must be prevented.

In attempting to prevent mal-union, the causes must be investigated, namely: improper reduction or proper reduction followed by improper splinting. Mal-union is preventable. One of the forms of mal-union is overriding.

In the shaft of the humerus this may not always cause deformity nor limit function, but in the lower extremity, overriding is a more serious condition and is usually due to insufficient early extension of the fragments.

Another form of mal-union is angulation. One may have end-to-end apposition with angulation, or overriding with angulation. If, in a fracture of the shaft of a long bone, there is end-to-end apposition, either partial or complete, with perfect alignment of the fragments, then there should be a good result, providing that the position is maintained and also that none of the factors which cause non-union are present. Rotation of the lower fragment upon the upper may cause an inward or outward rotation of the forearm or leg, which is a serious disability. Failure to maintain the normal anterior bowing of the femur is merely another form of angulation.

The causes of non-union are: 1, Failure of anatomical reduction; 2, Interposition of soft parts; 3, Lack of, or improper immobilization; 4, Occlusion of the nutrient artery; 5, Infection; 6, Syphilis; 7, Diabetes; 8, The inhibiting of callus by synovial fluid.

Splints should be applied on the spot where the injury occurred to prevent unnecessary trauma to the soft parts (nerves, vessels and muscles). Lack of immediate splinting frequently converts a simple fracture into a com-

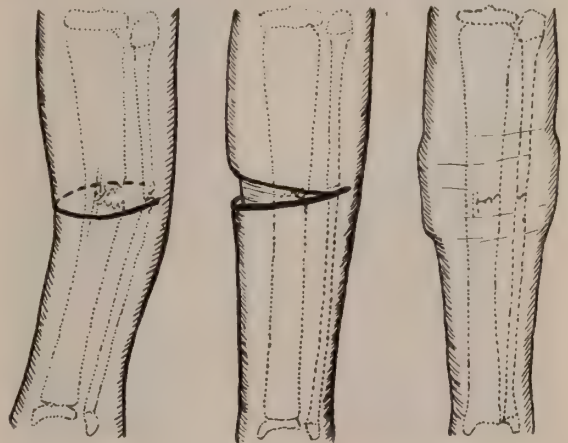
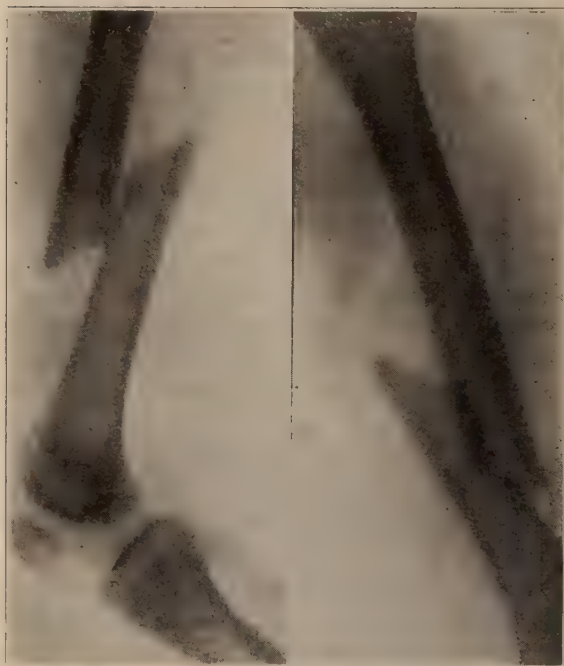
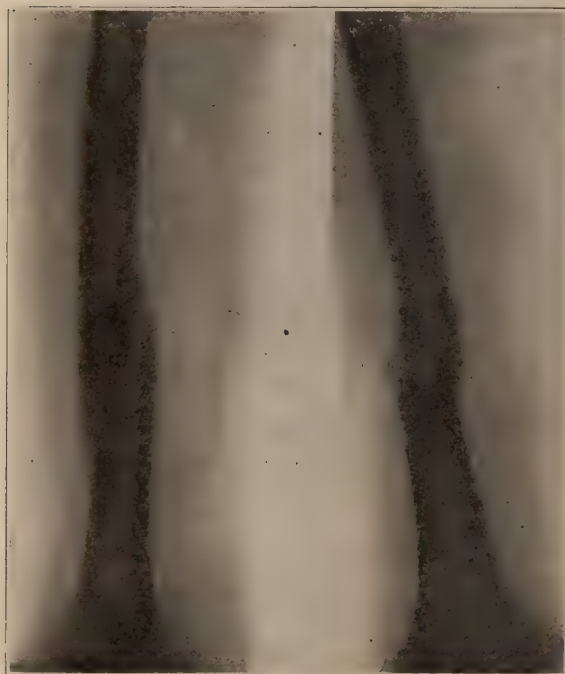


Fig. 3—Illustrating a greenstick fracture with angulation. (a) Cast applied without attempting to correct the deformity; (b) Cast cut through two-thirds of its circumference on the concave side and correction made, aligning the fragments; (c) The wedge filled in with plaster of Paris and sufficient additional turns of plaster bandage applied to hold the parts securely

pound fracture, the sharp fragments forcing their way through the tissues into the external world.



4a



4b

Fig. 4.—Roentgenograms of fracture of the middle third of the femur. (a) Before reduction; (b) Ten weeks later. This patient was treated by moleskin adhesive traction in a Thomas splint with a Balkan frame for four weeks followed by a plaster of Paris spica for three weeks

Reduction, preferably under general anesthesia, should be accomplished *at once*. In almost every case, it is negligence to wait for the swelling to subside before beginning reduction.

Examination, manipulation, and attempts at reduction must be very gentle. Either traction and counter-traction,<sup>3</sup> or angulation of the fragments to produce a hinged end-to-end apposition, are the most approved procedures. With a dentated fracture the hinged, end-to-end, apposition, i. e., carefully exaggerating the deformity and then straightening the extremity, may be the method of choice, and usually holds securely by the inter-locking of the tooth-like fracture ends. Emphasis should be placed upon the value of the head fluoroscope, fracture table, and portable roentgen machine, a combination which greatly simplifies reduction of fractures and allows a check-up during the application of the retentive apparatus. There is no groping in the dark with this method.

A molded splint of plaster of paris is very useful as a temporary appliance until the roentgenograms are taken. Frequently it can be used as a permanent apparatus. Whenever it is possible a circular plaster of paris cast should be applied after an immediate reduction.<sup>4</sup> One must bear in mind, however, that a fracture may be perfectly apposed and slip within the cast. It is sometimes necessary to split the cast to prevent circulatory constriction, but, in the hands of the surgeon who is expert in the use of plaster of Paris bandages, and with the proper facilities at hand for the application of a cast, it is usually unnecessary to split the cast.

It is a general rule that the joint above and below the site of fracture should be immobilized.

If one sees a neglected case several days after the injury, when the swelling is at its height, a Thomas splint or one of its modifications, or anterior and posterior board splints, or a moulded splint of plaster or paris is usually indicated.

In order to maintain the tonus of the parts, it is advisable to commence massage in the splint as soon as possible. This was recommended many years ago by Lucas Championniere, the noted French surgeon. As soon as it is possible, within the judgment of the surgeon, movement of adjacent joints should be started. This should not commence until the surgeon is certain that it will not interfere with the position of the



fragments. The masseuse or physiotherapist should work immediately under the direction of the surgeon, and early medical gymnastics should be very, very gentle. It is very evident that massage and movement of adjacent joints is impossible in a plaster of Paris cast, but it may be



Fig. 5—Anterior dislocation of the carpal semilunar bone

bivalved, that is, an anterior and posterior shell may be made, and the parts massaged and motion commenced.

The wedging of circular plaster of Paris casts should be a more frequent procedure. The writer has found it of great assistance in the treatment of greenstick, that is, incomplete fractures, and in the treatment of fractures which have been reduced and have excellent apposition but poor alignment. If greater length is desired, an incision is made circularly in the cast two-thirds of the way around on the side of the concavity and the lower fragment is brought into line with the upper. This can be done under the fluroscope. Then a small block of wood is placed in between the gaping edges and one or two plaster of paris bandages are wound around to reinforce the cast. It is frequently advisable, in greenstick fractures, to *apply the cast with the limb in its deformed position, then wedge the cast and straighten the limb.* (Fig. 3.) This usually completes the fracture but prevents displacement, which frequently occurs during the application of the cast.

Ordinary adhesive tape is usually inefficient and requires considerable readjustment and replacement. Moleskin adhesive properly applied or flannel strips with Sinclair glue or resinous glue with turpentine makes excellent traction possible. The limb should always be shaved before the traction bands are applied. Gentleness in manipulation and in application of traction bands lessens muscular contraction. Constriction should always be avoided. Some prefer fixed traction to the end of the Thomas splint,<sup>5</sup> the ring being fixed against the tuberosity of the ischium, while others prefer the weight and pulley.<sup>3</sup> In using the latter, the maximum weight necessary to obtain full length (sometimes as high as 50 pounds) should be applied as early as possible after the injury. By placing the maximum weight early and checking up with x-rays, it is found that the muscles are easily over-stretched and it is possible after a few days



Fig. 6—Vertical extension for fractured femur in a child four years old. It is frequently necessary to extend both limbs in this manner allowing the body to act as a counter weight. The weights, extending by overhead pulleys to the foot of the bed, are just sufficient to allow the buttocks to barely rest on the bed. (Courtesy Dr. L. Handelman.)

to reduce the amount of weight necessary to maintain the position.

Elevation of the lower end of the bed in fractures of the lower extremity prevents the patient from being pulled down by the weight to the foot of the bed, and eases the pressure of the ring on the tuberosity of the ischium.

The Thomas leg splint<sup>6</sup> or one of its modifications permits the daily measuring and inspection of the contour of the extremity, facilitates dressing of wounds in compound fractures and, with the proper suspension apparatus, permits ease in the movement of the patient for daily hygiene. For compound fractures near the hip joint, the

It cannot be too strongly urged, that frequent roentgenograms, anteroposterior and latter, are necessary to check up on the position of the fragments.

It is frequently necessary to refracture a mal-united bone to correct overriding or angulation. One must not hesitate to do this as soon as mal-union is discovered. One may be prone to permit a deformity with a soft callus to remain, when, by simply giving an anesthetic and placing the extremity over a block and applying force (the skin being previously prepared for a possible perforation), the bone is broken, and the proper amount of traction is applied and

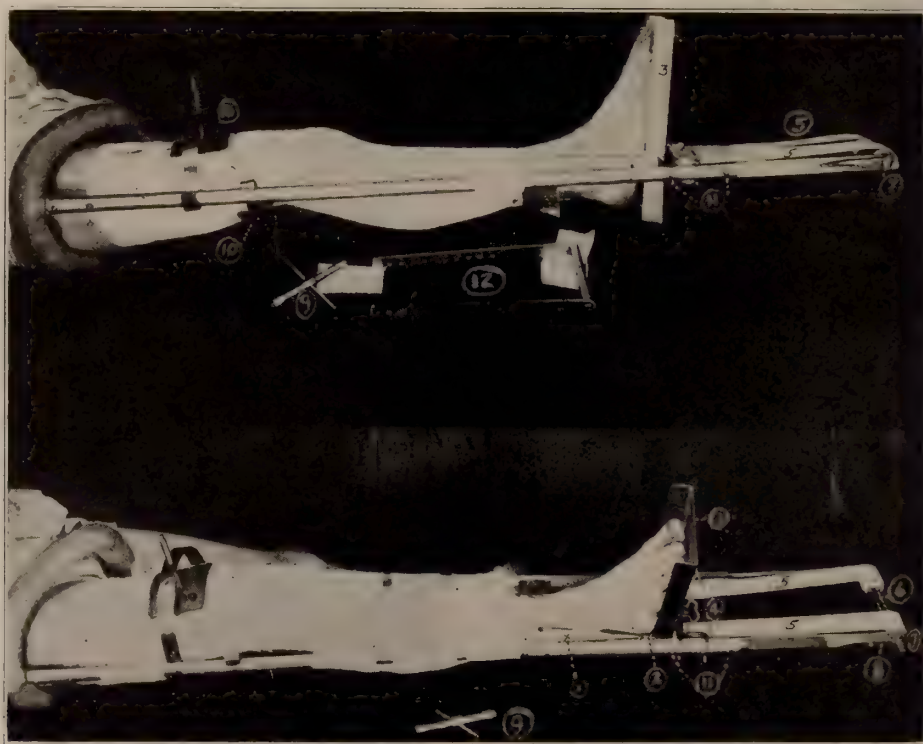


Fig. 7—Author's splint for fractures of the lower extremity showing traction bands (1) inserted into buckles (2) attached to foot plate (3) which has a thumb screw (4) allowing internal or external rotation. Webbing straps (5) are inserted into slot (6) which revolves on axle attached to ratchet (7) with spring lock (8). Key (9) is used for ratchet lock and

for up and down pressure pads (10). During convalescence the set screws (11) may be removed and a walking caliper attachment (12) applied without removing the entire splint. The side bars and pressure pads are made of an aluminum compound which permits roentgen rays to penetrate.

Hodgens splint facilitates dressing of the wound. Tongs or calipers<sup>7</sup> are usually necessary for fractures in the lower one-third of the femur. The Steinman nail through the os calcis or the Sinclair skate are usually necessary for badly displaced spiral or oblique fractures of both bones of the leg.

the deformity corrected. Should mal-union occur and permanent callus form, osteotomy is necessary to correct the deformity.

Non-union should be treated by autogenous bone-graft.<sup>8</sup> The most successful method consists of an intramedullary graft, with several osteo-periosteal wafers as described by Delan-



geniere and Lewin.<sup>9</sup> Before attempting operative treatment, one must eliminate some of the organic causes of non-union.

Compound fractures<sup>10, 11, 12</sup> require early careful debridement, and exposure of the fracture site. This frequently prevents the usual sepsis, secondary abscesses, hemorrhages, sclerotic and lardaceous changes in the surrounding tissues, and visceral degenerative changes. The wound is immediately enlarged, foreign matter and devitalized tissue removed, and the medullary canal exposed. It is advisable to retain in situ all attached bone fragments in a comminuted fracture, and to remove all loose fragments with no periosteal attachment. A light vaseline gauze pack may be inserted, or the wound may be packed with gauze saturated with Dakin's solution and Dakin tubes inserted into the bottom of the wound, and the solution instilled every two hours. In selected cases it is possible to make a primary closure of the wound. There is a relatively high mortality in compound femur fractures due to hemorrhage, shock, and acute and chronic infection.

Fractures, dislocations and fracture-dislocations of the carpus, especially the os lunatum, occur more frequently than heretofore reported. Good lateral roentgenograms as well as antero-posterior are essential.

Median nerve paralysis frequently results from failure of reduction or violent attempts at reduction. The usual treatment of fracture or dislocation of the carpal semilunar is excision.

Bizarro,<sup>13</sup> of London, in an analysis of 213 forearm and leg fractures, states that classic Pott's and Colles' fractures are comparatively uncommon.

Immediate reduction of Colles' fracture by hyper-extension, traction and palmar flexion with ulnar deviation is imperative. A posterior molded plaster splint is applied. Extreme care must be used to prevent constriction about the elbow or forearm which may cause ischaemic paralysis. Movements of the fingers should begin on the second or third day, and removal of the cast on the eighth to twelfth day, when massage and careful passive and active motion of the fingers should be instituted. The cast should be reapplied at night, but during the day the patient may carry the forearm in a sling,

the hand hanging in ulnar deviation. The cast may be discarded entirely after the third week.

The Jones position of extreme flexion is indicated in all fractures in or about the elbow joint, except fractures of the olecranon process, in which we place the forearm in full extension.

Fractures in the shaft of the humerus are divided into those of the upper, middle and lower thirds.<sup>14</sup> Those in the upper third usually require some form of abduction apparatus, either an aeroplane splint or plaster of Paris spica. The Thomas arm splint is frequently used, especially when it is desirable to keep the patient in bed.

The Jones humerus traction splint with coaptation splints and turnbuckles is very useful in fractures of the middle and lower thirds. It allows the patient to be ambulant. One must not forget to examine for possible musculo-spiral (radial) nerve injury.

The Mittedorf triangle and its modifications, such as the aluminum internal angular splint, are frequently used.

Fractures of the clavicle are best treated by the wooden board T splint, properly applied.

Fracture of the neck of the femur is comparatively common and is frequently improperly treated. It is the most common site for non-union. It is agreed that the Whitman method of inward rotation, traction, abduction and hyperextension, and immobilization with a long plaster spica extending from the toes to the exillae, is the best method of treatment of this form of fracture. This is done under general anesthesia on a traction table. The surgeon must not forget the importance of *first completely abducting the sound limb*. Impacted fractures of the neck of the femur are carefully immobilized in a plaster spica *without manipulation*.

Fractures of the shaft of the femur are divided into those of the upper, middle and lower thirds. Due to the gluteal and iliopsoas pull, the upper fragment is usually abducted and flexed in fractures of the upper third. The lower fragment must necessarily be brought into line with the upper.

The normal anterior bowing of the femur must be maintained in fractures of the middle third.

Fractures of the lower third of the femur are usually complicated by posterior displacement

of the distal fragment due to gastrocnemius pull. This can usually be corrected by skeletal traction applied by tongs to the femoral condyles. Traction is made in the longitudinal axis of the thigh with the knee flexed.

The Thomas leg splint or one of its modifications (Fig. 7), either with weight and pulley or fixed traction, is beyond doubt the appliance of choice in the treatment of fractures of the shaft of the femur. Vertical extension (Fig. 6) is efficacious in the treatment of fractures of the shaft of the femur in children.

Transverse fractures of the patella with separation require open operation and approximation with an absorbable suture preferably. If there is no separation, treatment by pressure above and below the patella and a long posterior splint is sufficient.

The Steinmann nail, either through the os calcis or just above it anterior to the tendon Achilles, is a very simple and efficient method of treating simple fractures of both bones of the leg. It may be used in selected compound fractures, although in these cases either a bridged (interrupted) cast, Sinclair skate with the Thomas splint or the writer's modified leg splint are preferred. (Fig. 7.)

In Pott's fracture, as soon as possible after the injury, the posteriorly displaced foot must be reduced and brought to a right angle with the leg and very slightly inverted. A circular cast is applied extending from the toes to about four inches above the knee. The cast is bivalved in about three weeks, and the limb is massaged daily and gently moved actively and passively and replaced in the cast. Protected weight bearing may usually begin about the eighth week.

Fractures of the metacarpals and phalanges may be treated by simply placing a three or four inch roller bandage in the palm of the hand and bandaging the hand and fingers over it, strapping it well. Unless there is marked displacement requiring traction, this treatment usually suffices.

Fractures into or near joints require special consideration owing to the possibility of ankylosis. The positions of election must be considered, e.g., in the shoulder, abduction to about 50 degrees, the elbow being slightly anterior to the coronal plane of the body. When there is a possibility of ankylosis of the elbow, it should

be held at right angles. When there is a possibility of limitation of pronation and supination, the forearm should be held midway between the two, except when occupational use indicates otherwise.

In the wrist joint, the position of election is dorsiflexion; in the hip joint, slight abduction with the thigh extended and rotated slightly outward; in the knee joint, five to ten degrees of flexion, and in the ankle and foot the most favorable position is right angles with slight inversion.

*Promiscuous open reductions and the use of metallic plates and sutures should be condemned.* Occasionally a plate may be necessary, but the conditions requiring its use are exceptional. The writer advocates conservative attempts at reduction of all fractures, and believes that most open reductions can be prevented by proper early conservative treatment. Many open reductions are done unnecessarily or unwittingly. Open reductions are, however, frequently necessary in fractures of the olecranon, patella and fractures of both bones of the forearm and leg. Reduction in these can usually be maintained by strong absorbable sutures and proper splinting.

*After treatment.* The time for removal of apparatus or splitting of casts depends upon the judgment of the surgeon. Roentgenograms should show proper position and sufficient callus. It is usually advisable to remove the apparatus at first only for physical therapy, massage, guided exercises, contrast baths, diathermy, etc., and then replace the apparatus. Later, the splint or cast is removed during the day and only applied at night to prevent injury during sleep.

The after treatment depends upon the part involved, the age, and the general physical and mental condition of the patient. Retentive apparatus may be removed much earlier in upper extremity fractures than in lower; much earlier in younger patients than in older. It is found that restricted motion in adjacent joints following fractures in children or young adults respond to treatment much better than in older patients. Orr has said that inefficient immobilization and too early mobilization are two of the principal causes of poor results in the treatment of fractures. It may be added that too early unprotected weight-bearing in fractures of the bones of the lower extremity is another cause. It must be remembered that hard permanent



callus is formed only after several months. It is therefore necessary to have protected weight-bearing, preferably by a walking caliper splint. Massage, diathermy, sinusoidal stimulation and medical gymnastics are important in the after treatment and lessen the period of disability.

### DISCUSSION

Edmund D. Levisohn, Chicago: I feel that Drs. Kreuscher, Thomas and Levinthal should be commended for the splendid work they are doing, and, above all, for giving to the profession their methods of treatment.

There are a few points I would like to stress.

First. An x-ray film of a fractured bone is of assistance only as to diagnosis and means nothing as to reduction even if the fragments have been forced into position and are being held by the surgeon. Only after immobilization apparatus is in place can the skiagram be called one that shows the reduction.

Second. Avoid bulky and unnecessary splinting. A simple impacted fracture of the wrist will heal just as quickly under a few turns of adhesive tape with a wooden tongue depressor over the posterior side of the wrist as it will in a plaster cast and is more efficient, easily applied and convenient for the patient.

A modified Thomas splint with a windlass, properly applied and watched will allow your old man with a fractured hip to be up and about not later than three to four weeks after the injury. Especially is this so in impacted fractures of the hip. Such a splint is a lot more comfortable and satisfactory than plaster of Paris up to the axilla.

Shoulders and arms do wonderfully well in aeroplane splints and allow the patient to be up and around and allow early motion.

Do not be afraid to take x-ray films in order to watch the progress of your case and whenever possible in fracture cases have patient ambulatory.

Watch your splints and ease your patient's trivial complaints. Don't let the nurse or intern adjust them for you. If you find it necessary to remove your immobilization apparatus before union has taken place be sure to take another x-ray film to see if reduction has been disturbed.

Functional results are more important than cosmetic results. Combined they are ideal. But ideals are not always possible to achieve.

And please remember the point the essayists especially stressed. Early motion of all parts

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## THE MANAGEMENT OF THE SECOND AND THIRD STAGES OF LABOR\*

G. F. HIBBERT, M. D.

CHICAGO

It is not the purpose of the essayist in this paper to introduce new methods in the conduct of the second and third stage of labor, nor to modify the present day technique, but rather to emphasize the most salient points that are sometimes regarded too lightly by both the general practitioner and obstetrician. It has been stated by one of America's foremost obstetricians that more fatalities result from accidents occurring during the third stage of labor than in the first and second combined, and when we realize that the statistics of the United States, unreliable as they are in many respects, show a maternal mortality at child birth of seven per thousand cases, I believe that we should strive to remedy this sad state of affairs. This most unfortunate condition is largely due to: 1, the unfamiliarity on the part of the physician with the physiology and mechanism of the second and third stages; 2, the injudicious attempts to hasten the process, and 3, poor asepsis and technique.

Briefly, let us refresh our memory with the

\*Read before the North Shore Branch, Chicago Medical Society, December 6, 1927.

physiology of the second stage of labor. This stage extends from the complete dilatation of the cervix to the birth of the child. Usually we find that at the onset of this stage, the membranes that have been acting as a hydrostatic wedge have ruptured, and the fetal head is being forced through the thinned out cervix. The patient now shows a marked difference in her cry—it being changed to more of a drawn out grunt, characteristic of the involuntary bearing down pains. With each uterine contraction, the powerful abdominal muscles aid in the expulsion, and the presenting head descends with each contraction until it presents at the outlet. Then with the occiput impinged under the symphysis pubis the process of extension takes place, the head being born in extension with the mento-occipital diameter passing through the vulvar outlet, the bregma, brow and face successively passing over the fourchette. External rotation or restitution quickly follows, indicating that the bi-sacromial diameter of the child has rotated into the anterioposterior diameter of the pelvic inlet. The next few contractions usually fix the anterior shoulder under the symphysis while the posterior shoulder is delivered over the perineum, the anterior quickly following; after which the body of the child is expelled, followed by a gush of amniotic fluid commonly known as the after-coming waters.

The third stage, or placental stage now starts, and may last for a period varying from five to sixty minutes. The uterus is usually relaxed and flabby at first, but within a few minutes begins to contract rhythmically, becoming hard and globular in shape, palpable above the symphysis. Within the next quarter hour the fundus rises high in the abdomen, is elliptical in shape and very hard. This condition indicates that the placenta has loosened from its uterine implantation and has descended into the lower uterine segment and upper portion of the vagina. This phenomenon has been accomplished by the uterine contractions and is independent of the expulsion of the after-birth. At this point of the process one usually notices an advancement of the cord from 3-5 cm. accompanied by a small show of dark blood and very often the consistency of the cord vessels is very limp and empty. Now, with the combined efforts of the uterine contrac-

tions with abdominal pressure, the placenta is spontaneously expelled, being in eighty per cent. of the cases inverted like an umbrella, drawing the membrane after it (Schultz method); or it may appear rolled upon itself in the so-called Duncan method. Physiologically the third stage of labor is now complete, the uterus retaining its globular shape, firm consistency and is quiescent.

In discussing the conduction of the second stage of labor, let us first say a few words concerning asepsis. Surgical asepsis, if possible, is most desirable, particularly if one anticipates surgical interference, or any intra-uterine manipulation. The usual preparation of the lower abdomen, thighs and perineum with one per cent. mercurichrome, or half-strength tincture of iodine and alcohol is imperative; following this the vulva and introitus is cleaned with a mild antiseptic solution. The patient, if she has been unable to micturate during the past few hours, should be catheterized. Most obstetricians do not catheterize unless they are preparing for a forceps delivery, and perhaps it is wise to be conservative, but there are many cases, in which the progress of normal labor is retarded, and the pain intensified because of the interference produced by a full bladder. Not only is this true, but post-partum paralysis of the bladder can often be directly traced to the same cause.

The question of making repeated vaginal examinations may briefly be answered by stating that, if the progress is good, and the position of the fetus has been, by abdominal and rectal examinations, diagnosed beforehand as a normal one, the repeated vaginal examination is not necessary and only adds to the possibility of puerperal sepsis. Far more important than the digital examination is the frequent taking of the fetal heart tones. This is paramount in importance if we are going to reduce the fetal mortality, for bear in mind that such calamities as fetal intra-uterine asphyxiation from cord pressure is in 95 per cent. of the cases not recognized until the head is far down in the pelvis, and the cord compressed against the bony pelvis. The head stethoscope is admirable for this purpose, or if the case is delivered in the hospital the interne should be directed to count the heart beats before and after uterine contractions; every



five minutes, at least. The addition of large clocks, or clocks with a clear-ringing bell which records fifteen second intervals to the equipment of the delivery rooms, has aided greatly in this matter.

As a measure of lessening material morbidity, particularly undue traumatism of the perineum let me emphasize the necessity of forcing the advancing head up and away from the perineum, by pressure of the physician's hand covered with dry sterile gauze dressing, exerted on the perineum up against the head. Also let me remind you that the head should be delivered by the obstetrician between uterine contractions, unaided by the patient. If this measure is carried out, fewer unexpected perineal tears resulting from a forceful delivery of the child's head would occur. Likewise, the delivery of both shoulders should be accomplished with as little effort on the part of the patient as is possible.

This, of course, brings up the question of analgesia and anesthesia. There can be no iron-clad rule regarding the use of anesthetics in the delivery room, but we must never forget that anesthesia is by far the greatest adjunct ever given to the profession, and to allay the suffering of the parturient woman is the duty of every obstetrician providing that it is justified. Today, chloroform is being pushed aside because of its injurious effects upon the heart and is being replaced by ether, and the gaseous agents, namely: nitrous oxide and oxygen and ethylene. Ether, for complete relaxation and surgical anesthesia is always a very reliable agent, but for the state of analgesia nitrous oxide or ethylene is far more desirable. The patient may be given inhalations of the gas with each contraction for a long period of time with very little nausea or vomiting and the progress of labor is not hampered. Then at the time of delivery of the head, the state of analgesia may quickly be changed to one of anesthesia and the delivery completely controlled. I do not propose to discuss the merits of nitrous oxide over ethylene except to say that we do not find increased bleeding from the decrease in the coagulability of the blood when ethylene is used and I find it a very desirable anesthetic to use in all cases.

With the termination of the second stage of labor, it is the practice of many obstetricians to

administer by hypodermic, one cc. of a standard extract of the pituitary gland. This aids the uterus in contracting, hastens placental separation, facilitates early expulsion of the secundina, thereby preventing post-partum hemorrhages. It has been customary with me never to massage the fundus of the uterus unless it has a tendency to be flabby and fails to remain contracted after it has been emptied of the fetus. Oftentimes, internes in their anxiety to be of great assistance, will unnecessarily grasp and massage the fundus instead of simply feeling the fundus as they are told. This over-stimulates both the cervical and uterine musculature and does not allow the normal process of placental delivery to proceed. When the separation of the secundina does not continue normally, and the patient continues to hemorrhage, it is always advisable to hasten the emptying of the uterus. The Credé maneuver, if properly executed, is very efficacious, but here again let me state that unless one is familiar with the technique, he is apt to do damage. The Credé expression differs from the simple expression in that, the uterus, at the same time it is forced down into the pelvis, is squeezed from all sides, so that its contents are expelled like the stone from a cherry. Dr. DeLee in his clear and comprehensive manner, describes this maneuver in the following way: "Being sure that the bladder is empty and the uterus contracted the fundus is grasped in the full hand with the thumb in front and, while the fingers are pressed together, the uterus is firmly but gently forced down in the line of the axis of the pelvis." The question may be asked as to the length of time deemed advisable to allow a placenta to remain in the uterus. Twelve hours is perhaps the longest period of time allotted, and then if the Credé manipulation is unsuccessful, manual extraction is advised.

Traction on the cord as an aid in expelling the placenta is of course to be condemned. Naturally no danger is entailed by the procedure if one is positive that the placenta lies in the vaginal canal—but usually the physician that uses such a method is likely to be negligent and careless. The danger from traction would be post-partum hemorrhage from retained portions of adherent placenta and membranes, or from the severed cord, partial or complete uterine inversion and damage to the cervix.

A word may be said regarding the delivery of adherent portions of membrane. Instead of pulling upon the friable portion, a sterile intra-uterine dressing forceps should be used to grasp the membrane firmly and then it is twisted several times about the forceps before downward pressure is made. Usually this is successful and clean results are obtained.

Immediately following the expulsion of the secundina ergot is given to the patient either intra-muscularly by hypodermic or one drachm by mouth, at the same time being sure that the fundus is contracted. Routine examination of the placenta and membranes should follow, being positive that the cotyledons all fit smoothly. The maternal surface should be wiped clean of all adherent clots and a good light will aid the physician in this important step. Remember that retained portions of placenta are a common cause of postpartum hemorrhage, and may be the media for invading organisms causing puerperal infection, and also interfere with uterine involution. Likewise the membranes should be examined for the same reasons.

When a tear of the perineum is inevitable, the question arises of whether the tear should be allowed to occur spontaneously or whether we should try to avoid it by doing an episiotomy. In my past experience I find it much more satisfactory to repair a clean cut episiotomy wound than a ragged tear that extends in two or more directions vaginally. If the physician decides to use the episiotomy he has the choice of a unilateral incision or bi-lateral incisions. The unilateral type usually starts at the mid-line and extends out obliquely, in order to direct the possible tear away from the sphincter-ani muscle, or it may be directed from the mid line of the vaginal orifice directly downward to the anus. I find that the former is by far the safer and is easily enlarged if necessary without possible danger to the sphincter muscle. The bi-lateral type may be used where the presenting part is extremely large, where there is dense scar tissue in the perineum that will not give or where there is a breech presentation. Whether or not there are adequate indications for doing an episiotomy will have to be partially determined by one's judgment and past experience. But the time to perform the episiotomy is before the perineal tissue has become blanched to a pearly

color and the skin is showing slight tears of the upper layers. The incision should be made at the height of a contraction, and a heavy pair of sharp scissors, curved or straight, as the choice may be, should be used. Personally I prefer a straight bladed Mayo scissors, and the patient is given three deep inhalations of gas just before the incision is made. On the other hand, the incision should be made before the introduction of the forceps where they are to be used. Briefly we can say that the indications for an episiotomy are as follows: resistant perineum, pathology of the vulva, such as scars or lesions, abnormal size of the child or abnormal mechanism, and as a means of preventing a bad perineal tear. Always remember that the object of the episiotomy is to prevent the separation of the muscle fibres and the fascia layers.

Before repairing the episiotomy, we must first look for tears and injuries to portions of the genital tract higher than the vulvar outlet and, above all, in the cervix. To my mind, the examination of the cervix for lacerations should be a routine procedure in every delivery, and all tears that involve the body of the cervix should be repaired, regardless of whether they are causing hemorrhage or not.

The subject of immediate cervical repair has been discussed for years, but I fail to find any text-book that emphasizes this point sufficiently. Whether we should teach our medical students to repair all cervical tears is a question open for discussion, but we can at least bring to their attention the fact that the cervix is subject to great trauma during the second stage of labor and it should be considered an injured member. All of us can easily recall cases where there was no external hemorrhage, yet examination of the cervix revealed two or three deep radiating tears of the cervical body varying from one to four cm. in length. This condition is apt to occur in primiparous or multiparous labors, and in normal, spontaneous deliveries as well as in forceps extraction or versions. This important step can only be accomplished satisfactorily by the aid of an assistant, two wide flat speculae and, above all, adequate light that is thrown into the vaginal canal. The cervix should be grasped by blunt-end cervical forceps and gently drawn down into the canal. The torn edges are approximated and repaired with twenty-day



chromic gut sutures. One important point to be emphasized in cervical repair is that the deep circular muscle of the cervix must be included in the suture. This circular layer has a tendency to retract under the over-lying edematous mucosa, and unless one draws it out with the aid of tissue forceps, it is apt to be overlooked and the repair to be of no avail, and a deep stellate wound and scar will result. I have had the opportunity during the past five years of examining and treating hundreds of gynecological cases in the clinic, and I know that many cases of chronic endocervicitis, erosions and cervical carcinoma if you please, are directly caused from neglected cervical tears occurring at child birth. Also, many cases of sterility following the delivery of the first child, and repeated miscarriages are due to the lack of proper support of the products of gestation from a badly torn cervix that should have been sutured at the first delivery. The mild leucorrhoeal discharge and cervical erosions often seen six weeks following the discharge of the patient from the hospital is nearly always due to hyperphasia of columnar epithelial cells lining the canal, and should be cauterized in the office of the physician; usually two to four treatments, aided by tamponades, suffice.

While it is not the intention of the essayist to discuss pathological conditions, yet a few words must necessarily be said regarding hemorrhages occurring in the second and third stages of labor. Always remember that one important duty of the obstetrician is to minimize the loss of maternal blood, and that we no longer agree with the authors of the past who stated that the loss of one to two quarts of blood at delivery was non-consequential. This is not necessary, even when pathology exists, especially when one is aware of the existing conditions and is prepared to cope with the situation. When extreme exhaustion of the patient is present following a long tedious labor, or following the administration of an anesthetic, the process of placental separation is often slow and incomplete, and in many cases the uterus has lost its muscular tone and fails to contract, causing a large accumulation of blood in its cavity. In these cases the Credé maneuver must be used immediately, and if this is not successful, and the placenta is partially retained in the uterus, manual extraction

of the placenta should be done at once, and the uterus packed with either plain sterile gauze or iodiform gauze. Then, if after the placenta is removed and the uterus contracted, the bleeding persists, the source must be located and the cervix, with a possible tear into either broad ligament should be thought of.

The repair of the episiotomy is usually the last procedure to be undertaken and time should be given to this matter. Very often we are necessarily hurried by the patient's poor condition, but when there is no great urgency in removing the patient from the delivery table, a thorough repair should be attempted and the patient anesthetized with gas or ether. The field of operation should be cleared of all clotted blood and fresh linen should replace the soiled. It is necessary to have a good light placed behind the operator. Frequently I insert a moderately sized gauze sponge into the vaginal canal to prevent blood from coming into the wound from above. To the sponge should be sewed a twelve-inch tape for the purpose of snapping a hemostat so that it will not be forgotten and left in the vaginal canal. Using plain cat gut and a full curved cutting needle, we begin our repair by bringing together the severed edges of the deeper layers of the perineal body, and we attempt, as best we can, to identify the individual muscles and fascias. The levator ani, transvers perine muscles and the deep transverse fascia are united respectively and the suture is buried. The superficial fascia and skin are usually united by interrupted silk-worm gut sutures, that are removed after the eighth day post-partum.

In infected cases, particularly where there is acute gonorrhoeal infection, it is not considered safe to bury cat gut sutures, so here we approximate the edges of the wound by using a few interrupted silk-worm gut sutures, leaving enough space for ample drainage and doing a radical perineorrhaphy at some later date.

To sum up briefly the salient factors that I have tried to bring out in this paper, let us always keep in mind the following:

1. Be aware of the normal mechanism of the second and third stages, and you will more readily recognize the pathological.
2. That surgical asepsis must prevail in the delivery room.
3. Be gentle in all procedures.

4. That a scrutiny of the entire genital tract is necessary if we are to lessen maternal morbidity.

5. Minimize hemorrhage—it may save the patient's life.

6. Remember that the repair of injured parts is just as important as delivering the baby.

6353 Broadway.

### CONGENITAL PYLORIC STENOSIS\*

ROLAND HILL, M.D., C.M., F.A.C.S.,

ST. LOUIS, MO.

Congenital pyloric stenosis is a disease of infancy. The primary mechanical factor of the disease is a thickening of the muscles at the pyloric end of the stomach to such a degree as to cause more or less obstruction to the passage of the gastric contents. The circular layer of muscle is very greatly hypertrophied while the connective tissue is not changed. The serous and mucous coats are not involved. The nature of the causative factor in this disease has not been absolutely determined but interesting theories have been advanced by Scudder<sup>1</sup>, Downes<sup>2</sup>, Richter<sup>3</sup>, Holt<sup>4</sup>, Stiles<sup>5</sup>, and many others. In observing a series of one thousand babies at Bethesda Hospital, St. Louis, Dr. T. Wistar White found that pyloric stenosis had occurred five times or one in every two hundred cases.

There are two different classes of cases referred to under the name of "congenital pyloric stenosis;" one is a simple spasm with very slight thickening and the other is a true hyperplasia with palpable tumor causing complete or almost complete occlusion.

In a review of the ninety-four cases that I have operated upon, two distinct types were particularly noted. *First*, those having an early onset with an average of seven weeks in which marked tumefaction and true hypertrophy were present. *Second*, those showing symptoms and signs of stenosis with the exception of a palpable tumor. The symptoms in the latter cases were not so marked and the progress of the disease was not so rapid. Seventy-one per cent of my cases were of the former type and twenty-nine per cent were of the latter. As regards sex, the

disease appears to be more common in males than in females. Of my cases, twenty-nine percent were females and seventy-one percent were males.

*Symptomatology.* The symptoms of this disease are usually so definite it can hardly be mistaken for anything else. The manifestations may be considered under four heads. These are vomiting, constipation, visible peristaltic waves, and palpable tumor. The manifestation of the disease to attract attention is vomiting. It may be more or less slight at first but soon becomes decidedly projectile. This is at times so marked that a child lying on its side may eject the contents of the stomach for a distance of several feet. Vomiting does not always occur immediately after taking food but in the later stages of the severe cases a part or all of the food will be ejected at each feeding. Primarily, there is no fever in the uncomplicated cases. Loss of weight is rapid. There is marked constipation and in severe cases this may be practically absolute. Mucus alone may be found in the stools. The urine is scanty and dark in color. The tongue and mouth are dry and the face wrinkled as in a child with marasmus. The upper part of the abdomen will be found on inspection to be somewhat enlarged. The lower part is narrow and empty. The outline of the stomach may project below the umbilicus. The waves of gastric peristalsis soon appear and are pathognomonic. These are due to contraction of the gastric muscle. They show as a rounded eminence arising in the left costochondral border where it remains for a short time and then passes across the abdomen and disappears on the right side. In some cases a number of waves may be seen at one time. They are rarely more than one inch in height and usually occur after food is taken. In a large percentage of these cases a pyloric tumor may be palpated. It occurs as a smooth rounded mass about the size of an olive lying at the site of the pylorus. The symptoms mentioned together with presence of the tumor make the diagnosis positive. A co-existing enteritis tends to obscure the diagnosis. In one of my cases a meningitis from ear abscess was very perplexing. As an aid to diagnosis the use of a stomach tube a couple of hours after taking food is of great value, in some cases recovering all that has been taken.

\*Read before Southern Illinois Medical Association at Anna, November, 1927.



*Diagnosis.* The diagnostic symptoms to be specially emphasized then are *first*, vomiting that eventually becomes projectile so that later in the disease nothing is retained. *Second*, the gastric waves from the cardiac to the pyloric end of the stomach are pathognomonic. *Third*, the presence of tumor. In a few cases where tumor was present I had not been able to palpate it. In some of these cases the stomach is so distended that the thickened pylorus seems to get behind the organ itself. Downes has made a suggestion that before the abdomen is palpated the gas and contents of the stomach should be emptied by the use of a catheter and the abdominal muscles relaxed by allowing the baby to suck water from a bottle during the manipulation. The finding of a tumor is most significant in establishing the diagnosis of a true hyperplastic type.

*Treatment.* The treatment may be either medical or surgical. Zahorsky states that he believes fifty per cent of these cases, if properly treated from the start, will get well without surgical intervention. White and Tuttle put the percentage of recovery under medical care considerably higher. They estimate that approximately seventy-five per cent, if treated medically from the start, will recover. These cases, however, are subject to sudden relapse and if the progress made is not satisfactory, I believe that surgery should be advised. Holt states that if a patient is observed from the onset of the symptoms, or if a reliable history can be obtained as to the duration of the symptoms, medical treatment is justified for a period of from seven to ten days, provided the baby does not lose more than twenty per cent. of its body weight during this time. If, at the end of this period, the weight has become stationary and there is a general improvement in the other symptoms, this form of treatment may be continued, always bearing in mind, however, that even though the infant seems to be making satisfactory progress there may be a sudden relapse. If so, the case should then be considered surgical, and operation advised. I have known of cases even where children have survived for years with persistent symptoms that led to the child's being defective and immature. As a rule, if a case is watched for a week or ten days and does not show very favorable progress, operative treat-

ment gives the best results. Downes and others placed the mortality of these conditions under medical treatment at from ten to fifty per cent. In tumor cases, Scudder has placed it as high as seventy-five per cent. Surgery, if the child has not lost too much, is usually done with a mortality of less than five per cent.

The question of anesthesia is an important one. I like ether if the child is not too devitalized, and have never seen any ill effects following its use. In cases of extreme prostration, local anesthesia is indicated.

Preliminary to operation, fluids of the body may be supplied by giving four ounces of Ringier's solution. This has an excellent effect. I have also used an ounce of ten per cent. glucose in the superior longitudinal sinus with splendid results. Blood transfusion has its drawbacks. If blood is given this way, absorption of fluids under the skin is much impaired.

*Operative treatment:* In tumor cases and the refractory cases in which tumor can not be felt, we believe that operation should not be delayed. While many different operations have been devised, there are only two that have been really successful—gastro-enterostomy and the operation of Rammstedt. Gastro-enterostomy is a very severe operation in these young children. I did fourteen of them and only six recovered. The babies who are brought to us early were in fairly good shape and nearly all recovered while other cases referred to me were too late. Many of them were almost moribund. I operated upon one child that weighed only three pounds and fifteen ounces, by posterior gastro-enterostomy. This baby recovered and is well today, and thirteen years of age. In the last eighty cases I have done the Rammstedt operation exclusively, and there was no death in any uncomplicated case. There were five deaths in this series, all from severe pre-operative complications, as uremia, enteritis and other infections.

In 1912, Rammstedt reported the successful application of plastic operation on the pylorus without opening the mucosa. He had done this on two cases. The serous and muscular coats were divided and the submucous coats were undisturbed. The muscle ends gaped sufficiently to correct the tendency to stenosis. Rammstedt, in his first cases, sutured the incision trans-

versely, but the child vomited a good deal and was slow in convalescing. He later found this unnecessary. The Rammstedt operation is done by making an incision about  $1\frac{1}{2}$  inches in length through the right rectus and one to two inches below the margin of the ribs. The pylorus is easily exposed where adhesions exist. In these cases a little more difficulty is encountered. The tumor is found to vary in size from the tip of the finger to that of the ball of a man's thumb.

An incision is made through the serosa extending from the lower to the upper margin of the tumor in the non-vascular area. The muscle is partly incised and completely separated by a blunt dissection. It is very important to avoid tearing the mucosa at the duodenal margin, as the connection is so close that this is easily done and has led to fatalities. The circular muscle will be found two to six times the normal thickness. The one frequent fault in our operation is that we do not stretch the pylorus sufficiently and make the incision too short. I have had to reopen two cases on this account. In some cases we are not troubled with bleeding. In others, a number of small vessels bled profusely. Several fatal cases have been reported from this source. I have not had any deaths from hemorrhage but have carefully underrun every bleeding point. The serosa is not sutured and I do not put a tag of omentum over the raw surface, although in one case obstructive symptoms developed on the sixth day which led me to reopen the abdomen. Some peritoneal adhesions were found which were released. This child recovered.

There are just three points regarding the operation which I wish to emphasize: 1. the peritoneal coat and submucous coat are very adherent at the duodenal junction, and the greatest care must be used to avoid tearing into the bowel. Some death have been reported from this cause. 2. Hemorrhage from the margin of the incisions in the pyloric tumor should be carefully controlled, as a number of deaths have been reported from failure to observe this special point. 3. Every case should be taken in suturing the abdominal wall. These children are so poorly nourished and their reparative power is so low that there is a tendency for the wounds to break

open. This occurred in several of my early cases. To avoid this I always use fine chromic catgut or kangaroo tendon in the fascia and one or two stay sutures of unabsorbable material. Lately I have put from two to four stay sutures of fine silk in the fascia.

*Postoperative treatment:* The postoperative treatment is most important and should be carried out by skilled pediatricians. These children are in the same condition as an adult who has been starved nearly to death. The result of giving food in such cases is often disastrous and the result of giving food in large quantities immediately after operation may lead to violent and dangerous reaction. One of our cases died from what seemed to be a myxedema. Zahorsky has made an examination of the stools in a series of our cases and has found, particularly, in the severe types, that violent reaction takes place. The child has some elevation of temperature, usually some diarrhea, and he has found microscopically large quantities of epithelium and pus cells in the feces. This condition often persists for about two weeks.

My conclusions regarding congenital pyloric stenosis are: 1. A large percentage of the mild cases will get well under medical treatment if it is carried out from the start. 2. It is a great mistake to let these patients become too weak before referring them for operation. 3. Mother's milk should be available as food. 4. Nurses trained in the handling of infants will be more successful than those trained in the general hospital, as the surgical results in children's hospitals are much better than those in hospitals devoted to general surgery. 5. In cases that are extremely weak and emaciated, Ringer's solution and glucose should be given before operation. The use of the superior longitudinal sinus for the giving of glucose is comparatively simple.

No surgical condition will give more brilliant results than those cases which are referred for operation early.

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## QUINCKE'S EDEMA AND THE PROSTATE GLAND

D. M. OLKON, A.M., M.D.

Asst. Prof. Neurology, University of Illinois College of Medicine

CHICAGO

The literature on circumscribed transient edema has been ably brought together by R. Cassiere,<sup>1</sup> in his monograph of 1912 and amplified again in 1923 in the chapter on "Die Angioneurosen und Trophoneurosen" in H. Oppenheim's<sup>2</sup> book on Nervous Diseases, 7th edition.

This brief paper makes no attempt to cite the entire literature on this interesting phenomenon, nor does it make an attempt to theorize on what the controlling influence might be, whether the vaso-motor nerves regulate the bulk carriage of chemical materials, augmenting or diminishing the flow of blood to the organs, or what determines the exact quantity of material utilized by every organ. All of these changes are at present a *terra incognita* for one thing, and secondly, this report does not purport to be a thesis on the subject; it is simply a report of an interesting case which suggests an unmistakable association between the removal of the prostate gland and the appearance shortly thereafter of circumscribed edema of the Quincke type.

\*Patient J. F., case No. 81805, male, white, 76 years old, came to the outpatient clinic October 3, 1927, complaining of recurring painless swelling in various parts of the body. The swelling, he said, comes on rapidly, without pain, tenderness or redness, lasts a short time and disappears.

The places of predilection are: the loose tissue around the orbits, cheeks, tongue, lips, neck, hands, knees, feet and scrotum.

Previous history: Patient was a merchant up to 20 years ago. Since that time has been selling insurance.

Personal habits: Does not use alcohol in any form, tobacco very moderately. Was never seriously sick, never had malaria or any of the infectious fevers. No unusual events in his life. Emotionally, not easily excitable, not given to worry or fretting and altogether a stable person.

\*From the University of Illinois College of Medicine, Division of Neurology. Patient presented before the Chicago Neurological Society, November 17, 1927, at the regular monthly meeting.

1. R. Cassiere: *Die Vasomotorisch-trophischen Neurosen*, Berlin 1912, Verlag Von S. Karger, Das akute unschriebene Odem, pp. 701-832.

2. H. Oppenheim: *Lehrbuch der Nervenkrankheiten*, 7th edition Verlag Von S. Karger, Berlin, 1923. Chapter: *Die Erkrankungen des Sympathicus; Die Angioneurosen und Trophoneurosen*, pp. 2099-2175.

Does not know of any one in his family having had a similar disturbance, and comes from sturdy stock.

Physical examination: Physical examination revealed a well nourished body without undue fat deposit, the skin was soft, moist, without any pigmentation or other unusual manifestations. The cardio-vascular system showed no disturbances of any kind. Blood pressure: Systolic 125; diastolic 74; pulse soft and compressible, 68 per minute, and an absence of adventitious sounds over the chest wall. Lung expansion was good, breath sounds clear, spleen and liver not palpable. No superficial gland enlargement; thyroid gland not palpable. Renal function was good. Urine negative on chemical and microscopic examinations. Urea nitrogen 48. No polyuria. No gouty manifestations or complaints.

Blood examination: Erythrocytes 4,200,000, whites 8,000, hemoglobin 85, differential blood count within normal limits. Blood sugar 107 Mg.

Stomach and bowel disturbances absent, is not constipated, and feces showed no unusual findings.

Capillary microscopy: Moderate capillary sclerosis without subcuticular hemorrhages, clumping, nor undue coalescence of the arch capillaries.

Neurological examination: Neurological examination showed no organic involvement. All of the reflexes, superficial, deep, skin and mucous were present and of good tone. The pupils reacted promptly to light and in accommodation. Blood Wassermann and Kahn tests were negative.

There was one sign, however, which indicated some vaso-motor hyper-irritability; namely, the Aschner phenomenon was strongly positive.

The interesting feature in this case is the onset of the swelling. Eight months ago this patient had his prostate gland removed for the relief of urinary retention. The operation was successful and he made an uneventful recovery. Three or four weeks after the operation some parts of his body swelled up suddenly, lasting for a short time, but, as time went on, the swelling appeared more frequently and remained longer, and as stated before it is always free from pain, redness, pitting, fluctuation, tenderness or hardness.

The question of a possible casual connection between the prostate gland and the so-called angio-neurotic edema naturally suggests itself. In Cassiere's survey of the literature no similar case is reported by him, or anyone else, to my knowledge.

Various factors as possible etiology are mentioned, e. g., gout, malaria, intoxication, alcohol, tobacco, diet, chemical poisoning, psychic shock, heredity, nervous exhaustion, trauma, thyroid, menopause and many others, too many to enumerate.

Since this case shows none of the etiological factors enumerated by Cassiere and other observers and since these swellings appeared shortly after the removal of the prostate gland and continue to appear at greater frequency at such an age without ever having had an indication of the trouble before, I deem it interesting to report in the hope that it may throw additional light on this obscure condition.

310 South Michigan Avenue.

# RELATION OF THE PHYSICIAN IN INDUSTRY TO THE PRIVATE PRACTITIONER AND TO THE COMMUNITY\*

VOLNEY S. CHENEY, M. D.,

Medical Director, Armour and Company

CHICAGO

"The physician in industry is one who applies the principles of modern medicine and surgery to the industrial worker, sick or well, supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation and accident prevention; and who, in addition, has an adequate and co-operative appreciation of the social, economic and administrative problems and responsibilities of industry in its relation to society." That is the definition of an industrial physician as elaborated by the Conference Board of Physicians in Industry. The only difference between a physician in general practice and an industrial physician consists in the latter's appreciation of the problems of industry and the application of the art and science of medicine and surgery to those problems. I think we are all convinced that such a difference exists and the claim of the physician in industry to being a specialist is not based upon his possession of any peculiar *medical* knowledge but chiefly upon his knowledge of non-medical things.

In common with all other physicians, he should possess the following essential qualifications: a good general education; honesty; tact and judgment; a thorough training in the fundamentals of his profession, and a hospital service of not less than two years. Along with these attributes which he should possess in common with all medical men, he should also have had several years of general practice in which he

maintained a close connection with public health agencies and studied preventive medicine, and community health problems and activities. He should have a general knowledge of industrial relations including employment methods; labor turnover; job analysis; apprenticeship; pensions; insurance; rest periods; absenteeism and welfare problems. Other essential qualifications are a thorough knowledge of working conditions and their influence upon the health of the worker; of occupational diseases; accident prevention; heating; lighting; ventilation; water supply; locker and washrooms; toilets; rest rooms; restaurants; housing conditions, and community health problems. Thus we find that the industrial physician combines with his medical knowledge and experience certain other attributes peculiar to the sanitary engineer, safety engineer, employment manager and community health officer.

Every large industry is a community in itself and presents the public health problems of a small city. Epidemics must be prevented, sanitation must be maintained and industrial diseases due to specific poisons must be eliminated. Industry is the chief basis for the subsistence of civilized peoples and the character of a community is governed largely by industrial conditions. On the other hand, the success of an industry depends in no small measure upon the health of the community. A sick town means sick workers and sick workers mean a sick industry. The industry cannot be healthy except by curing the sick community.

Industrial health is so nearly identical with community health that it would seem as if industrial hygiene were properly a unit of the community health service, but the fact remains, however, that in very few communities has medical organization developed efficient means of recognizing and promptly treating incipient disease. If such service is desired in industry, industry must provide it.

By thorough physical examinations and the recognition of incipient diseases of the heart and lungs; of contagious and venereal diseases, the medical department of an industry can be of the greatest economic service to a community. The recognition of communicable disease in industry is of vital importance to the community and to the health officer because the prevention

\*Read before the Englewood Branch, Dec. 6, 1927.



of these diseases is his job, whether they occur in the home, the school or the factory. The control of these diseases is of paramount interest to the worker because to him it means the loss of income through illness. An industrial worker infected with a contagious disease is a source of danger to his fellow workers because he exposes them to infection; to the industry, because by exposing his fellow workers he may cause an epidemic that may cripple the plant; to the community, because his fellow workers who are exposed to infection by contact with him may carry the disease into their homes whence it may be distributed by other members of their families to the schools and other industries. It is evident, therefore, that the prevention of contagious disease in industry is tied up closely with the prevention of contagious disease in the community in which the industry is situated.

Industrial medical practice should logically be coordinated with the activities of non-industrial physicians, the private practitioners, and with those of community health agencies, all serving with the common purpose of advancing the public health. The industrial physician, because of his opportunities for continued contact with workers, is able to be of great assistance to private practitioners in securing early diagnoses, in the maintenance of treatment, and in the subsequent follow-up observation of patients. With little doubt, much of the existent tendency of the medical profession to view with skepticism or alarm the growth of industrial medicine, will be overcome by a demonstration of the value of co-operation between industrial physicians, private practitioners and other groups engaged in community health work. The relations of the industrial physician with the private practitioner may usually be maintained harmoniously and helpfully when industrial medical practice is conducted with full regard for the reciprocal right which prevails among ethical physicians in non-industrial practice.

Except in certain instances such as isolated mining and lumber camps, the character of the medical service of an industrial medical department should be fraternal and not paternal. Outside of meeting the moral and legal obligations of the company it serves, the medical department should extend a friendly (brotherly) medical service to the employes and dependent members

of their families. This should be of an advisory nature only and for the purpose of developing their interest in health measures and means of attaining and maintaining efficiency. Treatment should be given only for minor ailments, which would not ordinarily reach the private practitioner, and to enable the employe to remain on the job. Incipient diseases and those requiring extended attention should be referred to their family doctor or a specialist if required. Thus the industrial medical department should function as a general clearing house to direct employes into the hands of local physicians or specialists. The members of the industrial staff who have an outside practice should never, directly or indirectly, use the prestige of their position to solicit patronage from the employes. It would be unfair to the employe to subject him to the embarrassment of refusing the proffered services and eminently unfair to the private practitioner who had previously rendered conscientious service to the employe and his family.

The industrial physician must observe the ethics of his profession more strictly than almost any other type of professional worker. It should constantly be borne in mind that it is poor policy to try, either openly or by innuendo, to destroy the prestige or minimize the ability of the private practitioner inasmuch as he is a partner of the industrial physician in solving the problems of community health and industrial efficiency. I am convinced that the role of the industrial physician should become more and more that of a friend and consultant of the private practitioner who is trying his best to make the working people well and keep them well.

The private practitioners of a community are always going to play a larger role than the industrial physicians in physical efficiency and health in industry, and there should be no rivalry between the industrial physician and the man in private practice. If such rivalry exists, it is due to the failure of the industrial physician to appreciate that a successful and competent physician in the community is the best possible partner he could have in solving the health problem in his industry.

Absolute frankness and fullest confidence on the part of both the industrial physician and the private practitioner are prerequisite to that comprehensive co-operation for which both should

strive. Co-operation that means better health for the employe and his family; better working conditions; better living conditions and greater efficiency on the job.

The private practitioner must remember that the industrial physician has a specific responsibility toward both employes and employer, and he should be willing to co-operate with the industrial physician in putting his job over. He should also be willing to give the industrial physician credit for trying to raise the standard of quality of his work and for wanting the confidence of the employes. He must be willing to appreciate that the industrial physician's stock in trade is not materially different, medically, from that of the private practitioner; that when the industrial physician fails to hold a patient, it hurts him just as much, if he has a conscience, as it would the private practitioner. The industrial physician, therefore, naturally resents any acts or comments on the part of the private practitioner which tend to lessen the employe's confidence in industrial medical work and, what is of the utmost importance, the private practitioner must have sufficient confidence in the industrial physician to meet him half-way to discuss the difficulties which lead to misunderstandings and wide breaches of friendship for the industrial man.

An industrial medical service is usually strengthened by close working relations with community resources. The relations of the company physician and the local practitioners may be, and should be, adjusted in conformity with the Golden Rule.

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### PRELIMINARY PREPARATION OF A PATIENT FOR COLOSTOMY

CHARLES J. DRUECK M. D., F. A. C. S.,

Professor of Colon and Rectal Diseases, Post Graduate Medical School and Hospital

CHICAGO

With a careful study of the apparently insignificant details before, during and after surgical procedure the operative mortality will be much reduced.

Very often the patient received for colostomy is *in extremis* and no elaborate preparation is possible. If the obstruction is complete it is especially desirable to wash out the patient's stomach before he goes to the operating room.

If, however, the obstruction is but partial the patient receives the usual preparation for a laparotomy. If any pre-existing ailments are present, such as bronchitis, tonsillitis, anemia, etc., the patient should be first relieved of his trouble before the operation is considered.

The colon is carefully flushed with saturated boric acid solution three times per day for two days previous to the day of the operation. The day before the operation he is urged to drink water freely, taking at least two quarts on this day.

The night before the operation he is given a full dose of hypnotic to insure a good night's repose. From now on nothing more is given him by mouth and he is not disturbed during the night. Too often, the special directions left by the surgeon do not include orders to see that the patient receives the necessary medication to produce a satisfactory number of hours of sleep the night before operation. With this detail forgotten the patient is altogether too likely to have a worried, restless, even sleepless night, with the result that he or she arrives at the operating room in a needlessly exaggerated state of nerves.

On the morning, one and a half hours before the time set for the operation he is asked to void his urine and the nurse must measure this excretion to be reasonably sure that the bladder is empty. If he fails to satisfactorily void, that fact must be noted that he may be catheterized in the preparation room. After he has voided and returned to his bed he is given hypodermically, morphin sulphate gr.  $\frac{1}{4}$  with scopolamine gr.  $\frac{1}{150}$ ; and this is repeated in 45 minutes.

Before going to the operating room a pneumonia jacket should be placed on the patient, especially if the weather is cold, and changed immediately after the operation before the patient is removed from the operating room. More attention should be paid to keeping the patient warm immediately after an operation by such simple means as having all windows closed and a few hot water bottles in the bed and the heat turned on. Electric fans during an operation, I believe, are dangerous to the patient.

Upon his reception in the preparation room the entire abdomen and the pubes are shaved and washed thoroughly with soap and water. He is also catheterized if that be necessary. It



is very embarrassing and time consuming to stop the operation after the abdomen is opened to catheterize the patient. After he is anesthetized the abdomen is painted with tincture of iodine, giving especial attention to the recesses of the navel. The iodine is immediately wiped off with alcohol and the abdomen is wiped dry. In emergency cases such detailed preparation may be impossible and the patient will be shaved, scrubbed and the skin sterilized as he lies supine upon the operating table. His body should be kept warm by ample clothing over other than the field of operation and free from wetting. Many patients, especially foreigners, are accustomed to sleeping in heavy underwear. This is usually removed and the patient is supplied with an abbreviated jacket which reaches to about the level of the umbilicus. In many cases he has been accustomed to sleeping with one or more featherbeds for cover, but now he gets one or two blankets, which are usually removed when the anesthetic is started. Years ago surgeons operated on heated tables, the idea being to prevent shock in that manner. Today it is not uncommon for surgeons to operate on a patient covered only by a gown, stockings and laparotomy sheets, with a window open and an electric fan playing upon the patient. By having all patients wear flannel jackets and keeping the part of the body not involved in the operative field covered by blankets, we can do much to prevent shock.

The operating room should be kept at not lower than 70 degrees F. Provision should be on hand for artificially warming the patient, and an ample supply of towels wrung out of hot normal saline solution should be on hand for protecting coils of eviscerated intestines. Reasonable expedition should be observed throughout the operation, because delays contribute much to the mortality of these patients. Many post-operative ether pneumonias would have been avoided had the surgeon spent a week or two prior to operation in getting the patient into the best possible condition. Of course, if the indications are urgent, an anesthetic should be employed which will give the minimum amount of irritation to the bronchial condition. Nitrous oxide or ethylene in this instance is ideal if given by an expert, but very dangerous if given by a novice.

As soon as the patient is unconscious of what

is going on he is placed in the Trendelenburg position and supported at the shoulders by well padded shoulder pieces. The legs below the knees are raised to a horizontal level. In this position the rectus muscles are more relaxed than when the legs are flexed at the knees and the patient maintained in position by fastening the legs to the table. This position rids the pelvis of all or nearly all of the small intestine before the abdomen is opened, and if it is maintained during the entire operation it will rarely be necessary to use pads or packs to keep the intestines out of the field.

### SOME OBSERVATIONS ON LEGG'S DISEASE\*

ROBERT C. LONERGAN, M.D.,

Instructor in Orthopedic Surgery, Northwestern University Medical School

EVANSTON, ILL.

Children are frequently brought to the physician's office complaining of limp, often referred to the hip. It is seldom that the patient is otherwise ill, but the limp is puzzling and the parents want to know why. Legg's disease is one of the many conditions which may cause this symptom. It has been variously described, both according to the presumed pathology and by eponym. No entirely satisfactory designation has been accepted and I prefer to speak of it here by the term which seems most familiar. Legg usually refers to it as "flat head" or the Latin equivalent—*coxa plana*. Other synonyms as Perthe's disease, Calve's disease, osteochondritis, osteochondritis deformans juvenilis coxae are also in use.

During a period of residence at the Children's Hospital in Boston an opportunity was afforded me in Legg's Clinic to observe a singularly large group of cases under treatment for this ailment. Many of these were old cases which failed to show any abnormality clinically, though the x-ray disclosed changes in the hip joint. During a period of a year there were, as I recall, from fifteen to twenty new cases admitted.

Several theories have been adduced to explain the etiology of *coxa plana*, viz: 1. Infectious. 2. Congenital. 3. Traumatic. 4. Combinations of these.

Phemister, Freiberg and Kidner have reported

\*Read before the Chicago Orthopedic Society, January, 1927.

cases to show that the lesion was of infectious origin. A case report by McWhorter maintained the same contention. It seems very doubtful, however, that the latter case was one of Legg's disease. In some of the others a growth of



Fig. 1. Cap type (Legg) following traumatic dislocation of the hip.

staphylococcus was offered as presumptive evidence of infection, although this may always be a contamination.

In one patient, operated upon by Legg, an area below the epiphysis of the femur, and resembling a Brodie's abscess, gave positive evidence of infection. It is, however, not only possible but probable that the abscess had no relation to the hip condition except in a remote manner.

Calve originally contended that the disease was due to an earlier rickets which deformed the osseous structures. Berry suggests that an arrested embryonic development has rendered the epiphysis more susceptible to trauma. Legg states that 66% of his cases have given a true history of trauma, and he believes that it is the chief factor in the production of flat head.

Certainly it seems there is little evidence to show that the disease is of infectious origin. Actually, it is rare that an operation is indicated and, hence, material for study is scarce. Furthermore, there is little clinical data to bear out the presence of infection.

There is, however, much evidence to substantiate the theory that trauma is an important factor. Twenty-two of Legg's original cases were reduced congenital dislocations of the hip, and I believe that no one doubts that trauma

is caused when a congenital dislocation is reduced by the closed method. Several cases are cited below in which trauma seemed to be an essential finding.

Undoubtedly there is some other factor necessary to produce the condition. Certain patients show other disturbances in the epiphyseal development and present lesions which are present at the same time in the same patient. Many authors agree as to the relationship existing between Kohler's disease of the tarsal scaphoid, Freiberg's infraction of the metatarsal head, Osgood-Schlatter's disease, vertebral epiphysitis described by Buchman, and Scheuermann, fragmentation of the epiphysis of the humeral epicondyle and of the lesser trochanter.

It is probable that trauma instigates the trouble, but it seems probable also that it is an injury to an already defective epiphysis. The defect may be generalized and affecting all epiphyses of the body. Possibly a disorder of the calcium and phosphorus metabolism might be responsible for a poor grade of epiphyseal tissue.

Legg assumes the pathology to result from interference with the epiphyseal circulation, which causes atrophic changes in the epiphyseal cap of the head of the femur and concentrates the local blood supply in the neck. On operation,

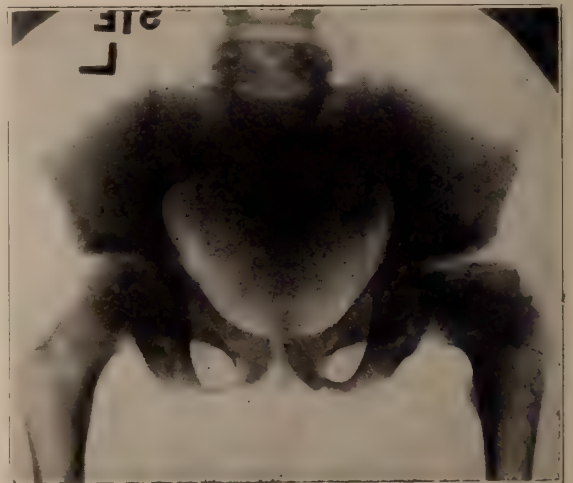


Fig. 2. Mushroom type End result without disability.

the synovial tissue may be swollen and edematous, but the head usually shows the rounded, cartilaginous ball joint, despite the fact that the x-ray shows a thin, flat epiphyseal cap.

*Symptoms and Signs.* A child, most often of



5 to 8 years, is brought in because of limp. Pain seems to be a variable quantity and not infrequently is absent. The history of trauma is generally given, since in any event the laity are most apt to trace a disability of this type to an injury, real or imaginary.

Text-books assert that the diagnosis rests on confirmatory x-ray evidence, and, as a matter of final analysis, it probably does, though the disability may be present for three months before there is positive x-ray evidence. There are, however, certain worth-while signs which the clinician may look for. In the absence of marked muscle spasm about the affected hip, rotation, particularly internal rotation, is definitely limited—likewise abduction; other motions may be normal. Palpation about the joint frequently discloses a thickening about the great trochanter.

The x-ray will show the flat, cap-like, sometimes fragmented epiphysis, a thickened neck of the femur, small scattered areas of rarefaction in the neck, occasionally above the acetabulum. The epiphysis becomes more dense and tends to slide to the outside, or, as the French authors express it, the epiphyseal line becomes more horizontal.

The cases presented here are offered to support the conclusion that the inciting factor in coxa plana is trauma.

1. O'C. Age 8 yrs. This child fell off the roof of a low building and dislocated his right hip. A plate taken eight days later shows the hip after reduction. This case was discharged by the attending surgeon, but returned after one year because of limp and a certain disability in the right hip. An x-ray taken at this time showed a well defined flat-head, of the type referred to by Legg as an end result of the cap type. He describes two—one, a deformed head and neck—the cap type (Fig. 1.), and, second, a deformed head and neck—mushroom type.

2. J. H. This case originally entered the hospital for the reduction of a congenital dislocation of the left hip. Several attempts were made to reduce this hip by the closed method before the operation was successful. An x-ray taken at 5 years shows the hip reduced. A very good acetabular shelf has been formed, and the femoral epiphysis has the characteristic flat fragmented appearance.

3. T. McC. This plate is presented to show the end result of a boy now in his teens, who has been under care for many years. There is no disability present. (Fig. 2.) It is in this type of end result that the best function is realized, and, according to Legg's recent report, none of the cases has shown a shortening of more than one-half inch.

I wish to mention here the case of a boy of

10 years who entered the hospital because of a coxa plana, who not only showed the characteristic x-ray picture, but also complained of tenderness in the elbow and in the heel. X-rays of these structures disclosed a fragmentation in the internal epicondyle of the humerus and a definite apophysitis of the os calcis. Another similar case was seen in which the flat head was accompanied by a Kohler's disease of the tarsal scaphoid in the same leg. These cases I believe bear out my assumption that the epiphyseal tissue in coxa plana and other parallel conditions is probably defective throughout the body.

*Prognosis.* This is generally good, with a disability which lasts for varying lengths of time up to a year and occasionally longer.

The end result in all cases leaves a deformity visible by x-ray, either forming a so-called cap-like or the mushroom type of epiphyseal head. Legg states that an end result of the cap type is the most severe of the two, with perhaps one-half to one inch shortening and occasionally a slight limp. Though in most cases the final disability is either slight or non-existent, one is prone to wonder if in later years this is not the type of hip joint which suffers from osteoarthritis—i. e., the "old man's hip" and other allied conditions.

*Treatment.* This also varies in the hands of different men. It has been Legg's practice to immobilize and prohibit weight bearing in only the more severe and painful types or in the ordinary case which shows exacerbations of symptoms from time to time. As a general rule he wraps a figure-of-eight flannel bandage about the disabled joint, both for its therapeutic and disciplinary value.

Many surgeons prefer to use the plaster cast, which, however, is ponderous and unnecessary. It removes the limb from sunlight and air and leaves behind a considerable atrophy of bone and soft tissue. Should it be necessary, weight bearing can easily be controlled by the use of a Thomas walking splint, with an elevated shoe on the opposite leg.

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## THE MANAGEMENT OF ECLAMTOGENIC TOXEMIA\*

FREDERICK H. FALLS, M.S., M.D.

CHICAGO

The medical management of any disease or morbid condition depends upon accurate information concerning its etiology and pathology. The cause of eclampsia is unknown according to most authorities and, therefore, all treatment must be more or less empirical and based on observations clinical and laboratory that have been made by various men. Recent advances in blood chemical analysis have failed to be of as much practical importance in the solution of the problems of the toxemias of pregnancy as was hoped and predicted for them a few years ago. Detailed chemical analysis of the urine with a study of the nitrogen partition, and the other constituents, have not advanced our knowledge very materially.

We have, therefore, to rely largely on our clinical observations plus what aid we may obtain from the laboratory in the management of a given case of eclamptogenic or nephritic toxemia.

Let us, therefore, summarize what we know regarding the disease and see if from these facts we can build up a rational management of the morbid condition based on this knowledge, disregarding the exact scientific proof of the underlying pathological processes.

First, we know that eclampsia never occurs in males or in non-pregnant (except puerperal) females.

Secondly, it is rarely if ever seen before the fifth month of pregnancy. Cases have been reported in the early months of pregnancy and even in hydatid mole pregnancy, but I have never known anyone who has seen such a case, and for one I am very skeptical as to their existence.

Thirdly, it is associated with extensive degeneration of the highly specialized cells of the parenchymatous organs, chiefly the liver, kidney, brain, heart and retina.

Fourthly, these lesions are associated with, if not dependent upon a thrombosis of the smaller vessels of these organs, and are not constant in any of them.

Fifthly, the blood examination reveals increased

coagulability, retention of non-protein nitrogen, uric acid, urea and chlorides and a decreased  $\text{CO}_2$  combining power, and a slight leukocytosis may occur. The blood pressure systolic and diastolic usually is raised.

Sixthly, other symptoms and signs manifest themselves, such as edema of greater or less degree, headache, epigastric pain, dimness of vision, vomiting and, as a climax, convulsions. Jaundice may be present, although this is rare. All of these symptoms may be aggravated by increased physical activity, or the ingestion of large amounts of protein rich foods.

We have attempted to interpret these observations, all of which we have repeatedly confirmed, and to outline a management based on this interpretation. Our conception based on the observations above mentioned is that eclampsia is a toxemia occurring in pregnant and parturient women at or near term. That the toxemia is primarily due to the pregnancy and may be aggravated or modified by the diet, amount of physical exertion the patient indulges in, the excretory capacity of the emunctories, and the effects produced by the toxin on the parenchymatous organs of the body. The alterations in the blood coagulability may be secondary to the toxemia or to the changes wrought in the parenchymatous organs, especially the liver. We are inclined to believe that there is essentially no difference between patients having convulsions and those not having convulsions, except one of degree of the intoxication, and possibly a selective action on the part of the toxins producing thrombi and edema in the motor cortex of the brain.

For the purpose of simplicity we may turn to a diagram which I use in presenting the subject to students, to give them something to visualize in considering the facts in this disease. If we conceive of the blood as a reservoir which has three inlet pipes and three outlet pipes with the toxins contained therein at a certain level maintained by the proper ratio between intake and outgo, we will have a working hypothesis to help us explain what the fundamental factors to be considered in patients showing evidence of eclamptogenic toxemia are. Let one inlet pipe A represent the toxins poured into the blood stream from the exogenous protein metabolism. Let B represent the toxins arising from the endogenous waste products due to bodily activity.

\*From the Department of Obstetrics and Gynecology, University of Illinois, College of Medicine.



Let C represent the toxins resulting from the waste products of fetal protein metabolism which are thrown into the blood stream of the mother by the placenta or abnormal toxic split products arising in the placenta itself.

The outlet pipes will be represented by A' the kidneys, B' the bowels and C' venesection. As long as the outlet or excretion efficiency is equal to or greater than the amount of toxin poured into the blood stream the normal toxin level will be maintained, and the patient will be classified as a normal pregnancy. But if the reverse is true, the toxins begin to accumulate in the blood stream, when a toxemia of pregnancy results.

It will be seen that the disturbance of balance may arise from one of several factors such as indiscretion in diet, overwork, a mild nephritis, absorption of toxins from the intestine, or an excessively toxic fetus or abnormal placenta.

With these factors in mind, then, let us see how we shall treat a patient showing signs of eclamptogenic toxemia. Two factors are practically completely under our control. The exogenous protein metabolism can be cut down to the vanishing point by putting the patient on a milk diet. The endogenous metabolism can be likewise reduced by placing her at absolute bed rest. The bowels can be opened up and made to eliminate toxins from the blood by the use of saline cathartics. This leaves two factors undetermined, the kidneys, concerning whose functional capacity or damage much can be learned by thorough chemical urine and blood examination, and the fetus, concerning whose toxin production little can be determined, except by inference.

It has been found clinically that the kidney may be protected by reducing its work by reducing to the minimum the load of protein end products that it has to excrete. That in many instances the evidences of irritation as albumin, casts and red cells, disappear from the urine and the functional capacity as shown by various kidney-function tests will be greatly increased. This is, obviously, of the greatest importance because progressive kidney damage usually determines the spontaneous or artificial termination of pregnancy, and may result in a fatal issue even after pregnancy has been terminated. The most important consideration in this connection is the excretion of the toxins by the kidneys

themselves. Failure of the kidney to perform this function results in their retention in the blood stream, with destructive action on the highly specialized cells of the liver, brain, and heart muscle. It is also probable that this primary toxic action is augmented by the absorption of toxins from degenerated areas occurring in these organs, particularly the liver, whose physiological detoxicating function may also be seriously impaired and thus add to the toxemia.

The most difficult factor to evaluate and to control in this connection is the fetus and its placenta. It is obvious that under normal circumstances the waste products from the fetus which are highly toxic are excreted into the maternal blood by the placenta. Under normal circumstances they are excreted by the patient's kidney without giving evidence of producing toxemia. We have no method of measuring the amount of toxin thus produced and excreted. There is no means of comparison between the toxins produced by the fetuses in the bodies of various women or of comparing the toxins excreted by the same fetus at different stages of pregnancy. We may assume that this toxic excretion gradually increases as term approaches. Young has felt that degeneration of the placenta secondary to thrombosis and infarct formation may play an important role. It is quite improbable that all placentas excrete the toxic fetal metabolic end products into the maternal blood in the same form and at the same rate, and therefore the reaction produced by this excretion must necessarily vary.

The management of patients suffering from toxemia must rationally be considered in relation to the degree of toxemia, and the severity and rapidity of appearance and progression of the symptoms, the associated normal or abnormal obstetrical and medical conditions and the time in pregnancy or labor at which the diagnosis is made. We may divide the cases into six main groups:

1. Normal obstetrical conditions plus mild toxemia.
2. Normal obstetrical conditions plus rapidly advancing toxemia.
3. Normal obstetrical conditions plus fulminating toxemia.

4. Abnormal obstetrical conditions plus eclamptogenic toxemia.

5. Intra-partum eclampsia.

6. Post-partum eclampsia.

Before going into the management of any of these special divisions we wish to stress the great importance of prenatal care as a prophylactic management. We believe that every obstetrical case should be under the personal supervision of a physician from the early months of pregnancy. Urinalysis should be done at least once a month up to the seventh month and every two weeks thereafter. This examination should include the amount passed in twenty-four hours, the specific gravity, the quantitative amount of albumin, if present, the microscopic examination for the possible finding of bacteria, casts, red blood corpuscles and pus cells. Blood pressure, systolic and diastolic readings should be taken and recorded at each visit. We consider any patient with a systolic reading over one hundred forty to be abnormal, if her pressure in the early months or when she is not pregnant is lower than this figure. Eclamptogenic toxemia occurs with low blood pressure, so that the absence of this symptom may be disregarded if the patient shows other symptoms of severe toxic nature.

The patient's weight should be carefully watched, and any rise in excess of twenty-five pounds or any sudden increase in weight should be regarded with suspicion. The appearance of edema, especially if more or less generalized, is very suggestive. Headache, spots before the eyes, epigastric pain, and vomiting are all extremely important signs and symptoms of eclamptogenic toxemia. These may, however, be due to other causes, and it is only after a careful examination into the possible causes of these symptoms that their eclamptogenic origin can be definitely asserted. The blood chemistry findings are usually very slight and equivocal in the early pre-eclamptic state. Careful observation and intelligent interpretation of these signs and symptoms, together with strict observance of the rules for management of these conditions, will result, we feel sure, in eliminating entirely the dangerous convulsive stage of the disease.

The management of the various groups listed above will be considered separately.

#### *Group 1. Patients with Normal Obstetrical Findings and Mild Pre-eclamptic Toxemia*

The clinical picture in such cases may be as follows:

The patient has mild edema, slight headache, a gain of ten pounds in a few weeks or a month. The blood pressure is found to be one hundred fifty or more. The urine shows an occasional cast and a one plus albumin is somewhat concentrated and decreased in amount in twenty-four hours. Such a patient is put to bed on a milk diet and the bowels are opened freely by daily saline cathartic. The symptoms practically always subside in a few days. Following this, if she be at or near term, we frequently try to induce labor by quinine and castor oil; if unsuccessful we increase the diet, and if no untoward symptoms arise we let her get up and even do light work under strict diet and blood pressure observations every day or two. If she does not respond to this management she is treated the same as group 2.

#### *Group 2. Normal Obstetrical Conditions but Rapidly Advancing Toxemia*

In this group the toxic symptoms are more marked and advance in severity, even under proper prophylactic management. There is, however, a period between the onset of the symptoms and the convulsive seizures of several days or weeks, but the pre-eclamptic symptoms become progressively more severe in spite of management. Under these circumstances we give quinine and castor oil, either with or without pituitrin, to induce labor, no matter what the gestation period. Failing, we pack the cervix with gauze or insert a Voorhees bag to induce labor. We try to estimate the reserve left in these cases before the onset of convulsions, and to terminate pregnancy before this is exhausted. This is not always easy to do, and we use as criteria of impending convulsions, especially, the symptoms referable to the brain, such as intense headache, blurring of vision, amblyopia, spots before the eyes, epigastric pain, nausea and vomiting. When these signs are well marked, we feel the convulsions are imminent, and the more radical measures have to be undertaken. During labor we stand ready to assist with the delivery of the child if complications intervene such as cardiac failure, pulmonary edema, premature detachment



of the placenta or threatened fetal asphyxia. We sometimes shorten the second stage by a mid or low forceps under nitrous oxide anesthesia. Following delivery, treatment is continued for seventy-two hours at least, exactly as if we expected that each of these cases would develop convulsions. We order rest, milk diet, free saline catharsis and fluids are forced. Morphin, one-fourth grain hypo, is given as soon as the baby is born and repeated every six hours if the patient is restless and the symptoms persist or are aggravated.

### *Group 3. Normal Obstetrical Conditions and Fulminating Toxemia*

This group of patients are in the greatest danger because the onset of dangerous toxic systems frequently takes both the patient and the doctor by surprise, and before the diagnosis is made convulsions may be present. Indeed, we occasionally see patients who have been under careful observation and have had efficient prenatal care in whom convulsive seizures are the first sign of intoxication. In this group we terminate the pregnancy as rapidly as possible, and the means employed depend on the obstetrical and surgical skill of the attendant, the surroundings of the patient, the duration of pregnancy, whether or not labor has begun, and whether the patient is a primipara or multipara. Under ideal circumstances with the patient in a well regulated hospital and the services of a skilled obstetrical surgeon at hand, I believe, a cesarean section under ethylene or local anesthesia, especially if convulsions have not yet begun, to be the safest method of delivery for both mother and child. This is especially true if the woman is a primipara at or near term and labor has not started. In the presence of active convulsions I prefer ethylene anesthesia. In multipara with premature but viable babies, a vaginal cesarean section is elected. However, if labor has already set in and the cervix is partially dilated, the dilatation may be completed under gas and the fetus delivered by version and extraction. Following delivery a quarter grain dose of morphin is given and repeated in three hours if necessary. The patient is bled if necessary to make a total blood loss of 1,000 c.c., including the operative blood loss. With the patient under the care of the same man, without the proper facilities or under proper surroundings but with an unskilled surgeon, bet-

ter results will always be obtained by medical management of these cases, and here the Stroganoff method is probably the best to employ. The technique is as follows:

When first seen, morphia  $\frac{1}{4}$  grain, and after one hour, chloral hydrate 30 grains in 200-250 c.c.m. of saline solution by rectum, or in 100 c.c.m. of milk by mouth. After 3 hours, morphia  $\frac{1}{4}$  grain, and after 7 hours chloral hydrate grains 30. After 13 hours, chloral hydrate grains 20 and after 21 hours, chloral hydrate grains 20, repeating every eight hours.

Ether is administered to control the convulsions, cardiac stimulants are employed, delivery is not effected until after the cervix has become fully dilated, and if more than three convulsions occur, 400 c.c. of blood is withdrawn. Stroganoff has collected 2,208 cases treated by this method in various clinics with a mortality of 9.8 per cent., and reports that in 230 patients whom he treated personally it was only 1.7 per cent. To this treatment we may add the use of magnesia sulphate intravenously in 20 c.c. doses of ten per cent. solution, as recommended by Vruwink and his associates.

### *Group 4. Abnormal Obstetrical Conditions Plus Eclamptogenic Toxemia*

This group includes women with contracted pelvis, cardiac or pulmonary complications, uterine fibroids, acute infectious diseases, and pelvic tumors. In general it may be said that each case must be considered on its own merits but that, except in the case of acute infectious diseases, the earliest termination of pregnancy compatible with fetal safety and by the most conservative method, is the procedure of choice. In the acute infectious cases we feel that the danger of puerperal sepsis developing is usually greater than the danger of eclampsia if the case belongs to the first or second group mentioned above. If of the third group, immediate delivery is indicated regardless, and under these circumstances a Poro-cesarean should be done. We lean decidedly toward enlarging the indication for cesarean section in this group because we hesitate to send a woman into a long, slow labor with impending eclampsia and abnormal heart or lungs or some other serious complication of pregnancy. The indication in these cases may be a double or triple one.

*Group 5. Intra-partum Eclampsia.*

Eclamptic convulsions coming on during labor frequently give rise to undue excitement. Once labor has started and some dilatation has occurred the onset of eclamptic convulsions usually results in speedy termination of the labor if there is no great disproportion between the maternal and fetal diameters. We usually wait until the completion of the first stage and then deliver by version and extraction if labor is delayed thereafter. Venesection of 600 to 800 c.c. in well developed women also is of value. These patients are set up late for delivery because of the inevitable contamination of the field during convulsions. Precipitate delivery must be guarded against by careful rectal examinations which should be limited in number to avoid irritation which precipitates the convulsions. All preparations must be made for reviving an asphyxiated baby, such as tracheal catheter, hot and cold water bath, oxygen and warm blankets, together with facilities for incubation if necessary. It should be kept in mind in this connection that these babies are toxic and frequently narcotized at birth, and the efforts at resuscitation must be governed accordingly. Vaginal examinations and operative intervention should be reduced to a minimum because of the known predisposition of the women to puerperal infection. All tears or operative wounds must be repaired at once if the patient's condition will permit.

*Group 6. Post-partum Eclampsia.*

This condition may arise immediately after labor or not until two or three days later. We very much doubt the authenticity of cases reported which are said to have come on weeks after confinement. As has been said before, every patient showing serious pre-eclamptic toxemia is treated in the puerperium as if we expected her to actually develop convulsions. This treatment is continued until the systolic pressure returns to one hundred forty or less, and the other signs and symptoms have improved. There is a peculiar psychological reaction on the part of the attendant in a severe eclamptogenic toxemia. With the birth of the baby, it is most natural to feel that the danger period is over because the pregnancy is terminated. This in a measure is true, but it must be remembered that fatal eclampsia can and does come on in

the puerperium, and vigilance may not be relaxed until complete metabolic balance has been restored.

These cases are treated by morphin, hypodermatically, and chloral and bromides per rectum. They are kept warm and on a milk diet. Magnesium sulphate two ounces by mouth or intravenously 10 c.c. of a 10 per cent. solution is used. Fluids are forced; in severe cases 1,000 c.c. of blood are removed by venesection.

## TREATMENT OF ECLAMPTIC CONVULSIONS

The management of the convulsions in any of these groups demands constant attention of a trained attendant. A mouth gage should be placed between the teeth at the beginning of the tonic seizure to protect the tongue during the clonic part of the convulsion. Sufficient assistance to prevent the patient from throwing herself off the bed during the convulsion must be provided. I know of at least one death from skull fracture where this was not provided for. The patient is best kept in a darkened room, and all outside stimuli reduced to a minimum. For this reason examinations should be few and very gently carried out. Morphin by hypo and chloral hydrate and bromides per rectum as above mentioned are useful. Bleeding when indicated had best be done by venesection rather than to attempt withdrawal of blood through a needle. The increased coagulability of the blood almost always clogs the needle before the desired amount is obtained.

*Results.* The only justification of a given line of treatment applied to a morbid condition is the result obtained. The theory may be all wrong, but if its application results in successful management of the disease, at least one important goal has been reached. We have had two series of patients coming under our observation in the last seven years. One group at the University of Iowa was composed chiefly of younger women, many of whom came to the clinic and remained under observation after the twenty-eighth week of pregnancy. They were housed in a waiting home attached to the clinic and were available at all times for observation. They were one hundred twelve in number, of which eight were classified as eclamptogenic and eighteen were nephritic toxemias. Our second group have been collected at the University of



Illinois, Research Hospital, and compromise the usual run of dispensary cases in a charity hospital. These numbered eighty-eight eclamptogeni and fourteen nephritic, a total of one hundred two cases.

We have, therefore, a total of two hundred fourteen women who passed through the two clinics with pre-eclamptic or nephritic toxemia. Of these, nineteen developed convulsions, one hundred sixty-eight were classified as pre-eclamptics, without convulsions, leaving thirty-two classified as nephritic toxemia.

Because of the difficulty of differentiating between the eclamptogenic and nephritic toxemias and because their management in the later months of pregnancy is practically the same, we have included all cases of these types in this series.

We have studied these cases from the standpoint of age, race, parity, period of gestation, Wassermann, history of preceding nephritis, eclamptogenic symptoms, such as headache, edema, visual disturbances, epigastric pain, vomiting, time of onset of convulsion, blood pressure, urine-analysis, eye grounds, phenolsulphonephthalein test; whether or not labor was induced, mode of delivery, weight of baby, blood loss, therapeutic measures employed, as venesection, milk diet, induction of labor, bed rest, magnesium sulphate and morphin injections, and the end results for the mother and baby.

I will not burden you with a presentation of the figures thus collected, but give a summary of the results obtained from this study:

- Convulsions developed ante-partum 8%.
- Convulsions developed intra-partum 6%.
- Convulsions developed post-partum 5%.
- Systolic blood pressure average: eclamptogenic cases 163; nephritic 190.
- Average percentage excretion phenolsulphonephthalein, eclamptics 16%; nephritics 23%.
- Operative delivery in eclamptogenic cases 21%; nephritic cases 52%.
- Cesarean Section 6%.
- Forceps 6½%.
- Version and extraction 5%.
- Craniotomy 1.5%.
- Bag induction of labor 24%.
- Quinine and castor oil induction of labor 14%.
- The fetal mortality in the eclamptic cases was 7½%.
- The total fetal mortality in both groups was 16%.
- Fetal mortality in nephritics was 50%; in viable babies 21%.
- Fetal mortality in eclamptogenics was 12%, in viable babies 6%.
- There was no maternal mortality.

## CONCLUSIONS

1. Eclamptogenic toxemias are probably due to altered metabolism in the mother due to the pregnant state and directly dependent upon the ratio between toxin formation and toxin excretion.

2. The probable sources of the toxins are the end products of protein metabolism, maternal and fetal.

3. Careful prenatal supervision of the pregnant woman will eliminate the possibility of convulsions occurring in a large majority of cases.

4. Except in the fulminating cases conservative treatment is the method of choice, and in these cases it should be used when the facilities and personnel for good operative technique are lacking.

5. Cesarean section is advocated in rapidly advancing toxemias when proper facilities are available, and concomitant complications, obstetrical or general, may help to indicate this procedure.

6. Patients developing convulsions demand special attention to prevent self injury.

7. By the application of these principles we have been able to deliver two hundred and fourteen patients with eclamptogenic toxemia with no maternal mortality, and the total fetal mortality in cases with viable babies was 27%.

## CARCINOMA OF THE RECTUM\*

L. E. HANDLEMAN, M. D.,

CHICAGO

In spite of the enormous amount of research that is being done throughout the world, little, if any, real progress has been made in the study of cancer. The very latest text-books on pathology in discussing the causes of this malady still mention the theories of Cohnheim, Ribbert, Thiersch and Waldeyer. But theorizing on "lost embryonic rests," on "inflammation" of these "rests" or on the loss of "physiologic restraint" of normal tissues on each other, does not add anything comprehensive to the causation of malignancy.

*Pathology.* According to Maud Slye, there are apparently two factors necessary for the production of carcinoma: first, the inherited

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susceptibility and, second, irritation or chronic stimulation or trauma fitted to induce it.<sup>1</sup> It is a recognized fact that this strangest and most lawless of vital phenomena has been initiated by tar, radium and the roentgen-ray. And, clinically, it may be noted that the organs which stand the brunt of physiologic insults are the ones in which carcinoma most commonly occurs—the stomach, the breast, the uterus, the intestines.

In the intestinal tract malignancy is not a rare occurrence. Jones<sup>2</sup> states that twelve per cent. of all carcinomata occur in this region and that sixty-five per cent. of these take growth in the rectum. In this region carcinomata are to be found as a rule at the junction of the rectum with the sigmoid, in the rectal ampulla or in the anal canal. The most common type is the adeno-carcinomatous growth derived from the cells of Lieberkuhn's follicles.<sup>3</sup> Of these there are three varieties of growth, papillomatous, the adenomatous and the colloid carcinoma. The ampullary tumors usually involve only a portion of the rectal wall though complete involvement is not rare. This is important to remember—that malignancy here remains local for a comparatively long time and that the lymphatic spread is relatively slow. This is of particular interest with reference to operability.

*Metastasis.* Metastasis, although a late manifestation, occurred in thirty-nine per cent. of Rankin's cases. Lymph gland involvement is the most frequent. Miles describes three paths of lymphatic drainage of the rectum:

1. The downward path—to the perineal skin, ischio-rectal fat and to the external sphincter.
2. The lateral spread—to the posterior vaginal wall, the base of the bladder, the base of the broad ligament, the levators and to the glands.
3. The upward spread—to the peritoneal floor of the pelvis, pelvic mesocolon, paracolic lymph nodes, nodes at the bifurcation of the left common iliac artery.

Clinically, Miles reports finding metastasis to the inguinal glands in 27 per cent. of his cases, to the liver in 10 per cent., pelvic organs 9 per cent., retroperitoneal glands 6 per cent., lung 4 per cent., perineum 3 per cent. and to the femur in 2 per cent. of his cases.

Metastasis in general is not the mere discharge

into the circulation of cells endowed with malignant properties. As a manifestation of malignancy it seems to be possessed of the same mysterious nature as the malignancy itself. It is a recognized fact that tissues differ in their liability to metastasis. Virchow long ago called attention to the interesting fact that the breast, the stomach, the uterus, while frequently the site of primary malignant growth are rarely the seat of metastasis. It is true that in the majority of cases metastasis can be explained on anatomical grounds. But what of those cases wherein anatomical considerations are out of the question? It is surely reasonable to assume that in many cases of malignancy cancer cells reach the heart, the spleen or the muscles. But how seldom do we find involvement of these structures! Are these unique and peculiar phenomena perhaps due to physical factors, such as the size of the tumor cell, the connective tissue relations, the number and size of blood vessels, or the contractile movement of organs? Or are they due to some special tissue predilection?

*Symptoms.* There is a tragic aspect to most cases of rectal carcinoma, and it is due to the fact that the diagnosis is usually made on late manifestations. The text-book picture of constipation, ribbon stools, progressive weakness, loss in weight, cachexia, metastasis—is the picture of a hopeless, pitiable case. If one is to serve his patient in the capacity common to the sincere, faithful and scientific medical man, he will have to make his diagnosis long before these late symptoms make their appearance. Earlier symptoms and of much greater importance are bloody stools, changed bowel habit and a mass in the rectum in at least seventy per cent. of the cases. This, the most vital of findings, is not as frequently looked for as its importance deserves. At the Mayo Clinic, twenty-six per cent. of their cases of rectal carcinoma had been operated on for hemorrhoids and in not one of these had a rectal examination been made! This inexcusable negligence is surely the cause for many of these cases reaching the hopeless stage.

A study of carcinoma of the rectum admitted to the Mount Sinai Hospital from 1921 to 1928 revealed seventeen undoubted cases. There were eleven females and six males. The ages varied from thirty-six to seventy-eight, the average age being over fifty-seven. In nine cases the diag-



nosis was arrived at through a rectal examination, either digital or proctoscopic. In the eight remaining cases the diagnosis was made by a roentgenologic examination. An interesting phase in this study was the analysis of the symptoms complained of by these patients. Seven complained of pain in the rectum, five were troubled with pain referred to the epigastric area, eight had bloody stools, seven suffered from constipation, one from constipation alternating with diarrhea, eight had lost considerable weight, six had lost their appetite completely and only one described a ribbon-like stool. No facts were brought out in relation to heredity. At the Montefiore Hospital, however, this factor seemed to have been of some importance. From 1914 to 1924 ninety-one cases of rectal carcinoma were admitted and in fourteen per cent. of these cases a definite history of carcinoma in the family was elicited.

*Treatment.* The essence of the treatment in these cases, as in other cases of malignancy, lies in the complete and widest removal of the tumor. According to Rankin, there are four factors which determine the operability of cancer of the rectum: 1, distant metastasis; 2, diffuse lymphatic involvement; 3, fixation of tumor to vital adjacent organs; 4, the pathologic classification of the growth according to Broder. Having decided, from a careful study of these four factors, that the patient can be operated on, it now becomes necessary to determine what type of operation is best suitable to the particular case. The operative procedure usually depends on the site and size of the tumor, the age of the patient and his general condition.

There are at least five types of operation for the removal of a rectal carcinoma. The ideal operation, of course, is the one-stage abdominoperineal procedure. But because of the delay in the diagnosis in the majority of cases such an operation is out of the question. In the majority of cases, therefore, the ideal procedure is a colostomy followed by a resection of the tumor. The colostomy in these cases is of inestimable value. It permits the patient to partake of solid, nutritious food thereby building up his vitality; it stops the irritation of the ulcerative tumor, thereby retarding its growth; and finally, it removes the possibility of an acute obstruction with its necessary emergency opera-

tion. Following the colostomy the patient is carefully and judiciously nursed for ten to fourteen days. The wide resection of the growth is then undertaken through the abdominoperineal procedure. Surgeons who are well versed in the treatment of carcinoma of the rectum, consider as ideal procedures a preliminary colostomy followed by the removal of the tumor with wide dissection of adjacent lymph nodes and invaded tissues.

#### CONCLUSIONS

1. Nothing new or definite has been added to the causative factors of cancer.
2. The most common form of rectal cancer is the adenocarcinomatous growth derived from Lieberkühn's follicles.
3. The symptoms of greatest diagnostic import are changed bowel habit, blood in the stool and a mass found on rectal or proctoscopic examination. A rectal examination should be made in every case where the stool shows evidence of bleeding.
4. The treatment of the vast majority of cases consists of a preliminary colostomy followed by a wide and extensive reaction of the tumor through the abdominoperineal route.

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### THE DETERMINATION OF PERMANENT DISABILITY FOLLOWING HEAD INJURIES\*

RALPH M. CARTER, M. D.

GREEN BAY, WISCONSIN

The subject of head injuries, even considered merely from the point of view of workmen's compensation, is entirely too broad to be covered properly in the limits of a paper such as this. Consequently it is desirable at the outset to define the scope and purpose of the present discussion.

In speaking here of head injuries, I am not referring to superficial scalp wounds and to those minor traumata which heal readily and which give rise only to a short period of temporary dis-

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ability; I have in mind those cases of greater severity, cases of skull fracture, cerebral contusion or concussion, etc, in which damage to the cranial contents may have been present, or is, at any rate, strongly to be suspected, and which may be, and very frequently are followed by a greater or less degree of permanent disability or functional inefficiency.

Such are the cases with which I am here concerned. And I wish to consider them from the point of view of the general surgeon, who is frequently called upon to examine them, weeks, months, or it may be, even years after the original injury, with a view to determining the presence or absence of permanent disability, and if the latter is present, its degree.

*Difficulties of the Problem.* The appreciation and estimation of the damage resulting from a cranial traumatism belongs in the category of the most difficult questions in the medical aspect of industrial accidents. That this is true is shown by a consideration of some of the elements entering into the problem.

In the first place, in many cases, the extent and variety of the knowledge which is indispensable for a proper examination from which sound conclusions may be drawn, make it almost impossible for any individual physician to be so equipped; the collaboration of a competent neurologist, an oculist, and an aurist is absolutely necessary. However, this is probably the least important phase of the problem, since such special services are readily available in every large city, and in most of the smaller ones.

A second and much greater element of difficulty appears when we recall the fact that many of the disabilities and disturbances complained of are largely, and not infrequently, entirely subjective in their origin. Among the commonest symptoms provoked by cerebral traumatisms, and the ones emphasized by the patients, are headaches, vertigo, disturbances of the psychic state, etc. An appreciation of the intensity of such symptoms is extremely difficult, since we have no means of measuring them; indeed, in many instances, especially among the milder cases, we have first to convince ourselves of the honesty and good faith of the patient in order to believe that symptoms are present. Under such circumstances, to make an approximately correct and satisfactory estimate of the func-

tional disability resulting from these more or less speculative symptoms presents no easy task. To make such an estimate is hard enough when we have definite, concrete evidence of disability before our eyes, as in the case of an ankylosed joint, or a paralyzed extremity; how much more difficult the problem is, when the evidence from which conclusions are to be drawn is more or less intangible in nature, will be readily apparent. Furthermore, every individual reacts differently to any departure from his normal state. It is undoubtedly true that pain, for example a headache, may be sufficiently severe to prevent all work; on the other hand, it is equally true that a headache which would completely incapacitate one man, might occasion only lowered efficiency in another, due entirely to their different individual reactions. This fact also has to be taken into consideration in every case.

A third element giving rise to difficulty in the examination of patients suffering from the late results of head injuries is due to the fact that many of the symptoms induced by a cerebral traumatism may be manifested intermittently, or even only at rare intervals; however, in spite of this, they may be none the less serious. When such is the case, in spite of the best faith on the part of the patient, and in spite of repeated examinations on the part of the physician, the latter may be unable to obtain sufficient information upon which to base a judgment satisfactory to himself. For example, the claimant may be subject to paroxysms of Jacksonian epilepsy, or he may suffer from attacks of vertigo which occasionally reach sufficient intensity to cause him to fall; since this may happen under any circumstances, in the street, in the shop near moving machinery, in fact, anywhere, the prospect of a serious secondary accident is never very remote; but since the attacks recur at irregular intervals, and may come on at any hour of the day or night, it is extremely unlikely that the examiner will be able to establish their occurrence to his own satisfaction. He is forced to form his conclusions from the history as obtained from the patient, his family and his friends. Such testimony is almost always prejudiced, and is, moreover, unreliable, since it usually comes from poor and untrained observers. Under these circumstances, the only thing which can be done, is to insist that the



claimant enter a hospital for observation, and that he remain there for a length of time sufficient to establish or disprove his claim.

Another fact which must never be lost sight of in the examination of these patients is that many of the prominent symptoms produced by cerebral traumatism, such as headache, vertigo, and deafness, may be the result of pathological processes entirely independent of any injury, for example, otitis media, mastoiditis, infection of the accessory sinuses, etc. Every effort must be made to rule out these conditions, either old or recent, as a factor.

It must also not be forgotten that cerebral lesions sometimes exhibit a latent period of months, or even years. A patient may consider himself completely cured following an injury to the head; after a varying, but usually prolonged interval, symptoms of epilepsy, dementia, or other cerebral disturbance not ordinarily associated with traumatism may appear. At autopsy, at the exact site of the old injury, a patch of thickened dura, an old abscess, a cyst, an exostosis may be discovered. Such cases are fortunately rare, but have been recorded not once, but many times. I know of no instance in which a claim for compensation has been made under such circumstances; nevertheless, the possibility is there.

Finally, it must be remembered that malingerer is always to be suspected. Of course this is true to a certain extent in all cases following injury, especially those in which there is a prospect of compensation, but I believe that it is especially so following head injuries. Headache, vertigo, deafness, loss of memory, dimness of vision, mental depression, all may be readily simulated, and great difficulty may be encountered in proving such simulation. It might be thought that in this connection the history of the patient previous to his accident would be of great value, but such is actually not the case. Such a history will necessarily be obtained from the patient's relatives and close friends, who are usually far from disinterested. From them it will probably be learned that formerly he never had an ache nor a pain, that his sight and hearing were extraordinarily keen, that his intelligence was much above the average, etc. Consequently, the entire burden of proving malingerer rests upon the examiner, or better, examin-

ers. On the other hand, a true psychoneurosis may be present, which must be carefully differentiated from simulation.

From the preceding observations, it is apparent that patients suffering from the after-results of head injuries often present the greatest problems; problems which at times appear almost insoluble. Such being the case, the surgeon should not hesitate to repeat and prolong his examinations to his complete satisfaction, and when, as very frequently happens, assistance in special fields is demanded, he should not hesitate to obtain such assistance.

*Clinical Aspects of Head Injuries.* From the clinical standpoint, a variety of classifications of head injuries for purposes of study and description is possible. For my purpose, a classification based in general upon symptomatology is sufficient.

In the first place, two groups are immediately apparent, in one or the other of which the great majority of patients belong. The first group comprises those cases in which all symptoms are diffuse, permitting no exact localization of the site of the lesion; the second group is made up of those which present definite localizing signs and symptoms. Strictly speaking, cases presenting epileptic manifestations belong in this second group, but on account of their surgical importance have been placed in a third group.

In addition to these cases just mentioned, there are certain others, comparatively few in number, in which the sequelae are late in making their appearance, being preceded by a latent period of varying duration, without, however, for this reason being less serious. And finally, there are cases which present a mild symptomatology in the beginning, followed gradually by late serious manifestations.

Summing up, then, we have five clinical forms to consider:

1. Cases with diffuse, non-localizing symptoms.
2. Cases with localizing symptoms.
3. Cases with epileptic manifestations, either local or general.
4. Latent cases.
5. Cases with late aggravation.

In spite of this formidable array of possibilities, it should not be forgotten that complete cure, without sequels, is common.

Practically all of the cases in the first group present the "common subjective syndrome" described by Pierre Marie in 1916. As is evident from the name, the symptoms complained of are purely subjective. The principal ones are headache, attacks of dizziness, not amounting to true vertigo, accompanied by visual disturbances, and various indefinite nervous symptoms.

Headache is probably the symptom of which complaint is most commonly made. It may be violent and continuous, or it may be present only intermittently. Usually its location is more or less vague, although sometimes, the exact spot may be fixed very definitely, under which circumstance the symptom assumes some localizing value. Frequently, tenderness upon palpation may be complained of over the whole side of the head upon which the injury was received. The pain may be variously described as a sensation of weight, as of a band about the head, as a pounding, etc. It is increased by effort, fatigue, jarring, noise, heat, cold, sudden movements of the head, bending over, and other causes.

The majority of patients complain of dizziness. This is not constantly present, but comes on at irregular intervals, particularly during effort, or while bending over. It is not a true vertigo, being of a much milder degree; the patients do not stagger, and they do not fall, although many of them state that they feel as though they were about to. The attacks are often accompanied by transient blindness, or a sensation as of flashes of light before the eyes.

With this headache and dizziness are very often associated complaints of indefinite psychic disturbance: hebetude may be present, or there may be noted changes in disposition, emotional instability, insomnia, impaired memory, physical laziness, etc.

With all this, the general physical health is usually excellent: nutrition is good, appetite and digestion are unimpaired, the various functions show no change. The cerebrospinal fluid frequently shows increased tension, and contains increased amounts of albumin and sugar. This may be the only objective finding, as will be mentioned later.

The symptoms characterizing the cases in this group have been discussed somewhat in detail because they make up the picture which is encountered by far the most frequently in com-

pensation surgery. Simulation and exaggerations are also most common here, and are always difficult to discover and rule out.

The other clinical forms mentioned above may be considered briefly.

The cases making up the second group, those characterized by localizing symptoms, present disturbances of various kinds. There may be motor troubles manifested by monoplegia, hemiplegia, or paraplegia, by paralyzes of single nerves, such as the facial, or paralyzes of the area supplied by a single nerve trunk, such as the ulnar or median. It should be remembered that cerebral paralyzes are practically always crossed; occasionally, however, homolateral paralyzes may be observed: such cases are probably the result of *contre-coup*. There may be disturbances of sensation, of coordination, cerebellar vertigo, etc. In the examination of cases of this group, the services of a trained neurologist are absolutely indispensable.

In the third group belong those cases with epileptic manifestations. Among 1316 cases of head injury in civil life, reported by various authors, some form of epilepsy as a late manifestation appeared in 62, or 4.7 per cent.

The epilepsy may be general or local. In certain cases, a craniocerebral injury is undoubtedly capable of producing generalized epilepsy, analogous in every way to the so-called idiopathic form. Careful differentiation is extremely necessary here in order to be sure that such cases are not manifestations of a post-traumatic hysteria; on the other hand, it may be that the epileptic attacks preceded the trauma which is alleged to be their source. These generalized attacks have very little, if any, localizing value.

The opposite is true of the Jacksonian type. These attacks may have a pure motor, a pure sensory, or a paralytic form; they affect exclusively a certain portion of the body, particularly the extremities; they localize the seat but not the nature of the lesion in the opposite cerebral hemisphere.

In this group, also, belong those cases presenting the so-called epileptic equivalents: for example, slight temporary unconsciousness, attacks of vomiting, transitory pains or areas of anesthesia, aphasia of short duration, temporary absence of mind, etc.



In the cases of the fourth group there is a latent period, varying from months to sometimes years, in which symptoms, if present, are so slight as to be disregarded by the patient, and no evidence of disturbance is discoverable upon careful examination. Later definite evidence of trouble appears.

In the fifth group belong those cases presenting in the beginning mild and apparently benign symptoms; these persist with no apparent change for an indefinite period, and suddenly, without apparent cause, take on a much more serious character; epilepsy, meningitis, mental troubles, etc., may appear.

*Examination of Patient.* Turning now to the examination of the patient, it should be clear, from what has preceded, that such an examination, to be complete, must include a careful history, a general physical examination, special examinations by the neurologist and by the ophthalmologist and aurist, a radiograph and a lumbar puncture. Fortunately, as was said before, in civil life, the majority of patients with cranial injuries completely recover, especially if we take into account those cases of slight concussion, etc., which often never enter the hospital. Such cases, also, are practically never followed by serious sequelae. Consequently, it happens very frequently that special examinations are clearly unnecessary, and may be entirely dispensed with; where there is the slightest doubt, however, they should be employed.

A clear history in this class of cases is of the highest importance. It may seem superfluous to mention this, but it is deserving of special emphasis. The patient should be questioned carefully as to the exact circumstances of his original injury, whether there was a loss of consciousness or not, and its duration, if present. Were there paralysis of any portion of the body, or disturbances of bladder or rectum? How long was he confined to bed, and what treatment was employed? If this treatment was surgical, efforts should be made to determine the details, if possible. The entire progress of the case from the time of injury to the date of the examination should be thoroughly covered. Finally, the present symptoms of which the patient complains should be elicited very carefully; in a large number of cases they will be found to be very similar, as has been stated.

A complete history having been obtained, a thorough general physical examination should next be made. Particularly the site of the alleged injury should be gone over very carefully. Any scars present should be observed, and the condition of the underlying bone investigated. If there is a loss of osseous tissue, the shape and size of the bony defect should be accurately noted; it should be observed whether or not the pulsations of the brain are visible, and whether there is an impulse on coughing or other effort. During the course of this examination, the condition of the ordinary flexes will have been ascertained, any gross muscle atrophies, weaknesses, or paralyses will have been discovered, together with any decided alterations in sensation. From the results of this examination, it can now be readily decided in most cases as to whether further special examinations are indicated or not. Very frequently, as was said above, it will be found that they are entirely unnecessary; however, for purposes of emphasis, let it be repeated, in cases of the slightest doubt, the patient should be examined by specialists.

A detailed discussion of the neurologic examination is outside the scope of this paper. It is sufficient to say that it should include an investigation of any motor disturbances, the condition of both superficial and deep reflexes, disturbances of sensation, of coordination and equilibrium (indicating cerebellar lesions), of the gait, and of speech.

The ophthalmic examination should determine the condition of the extrinsic muscle of the eye, the characters of the pupil and its reflexes; it includes testing of the visual acuity, and measuring the field of vision, concluding with the ophthalmoscope.

By means of the otologic examination, any alterations in the character of the hearing are tested: the various labyrinth tests, which often have a definite localizing value for a deep lesion, are also made.

A radiographic film of the cranium may give information of the greatest value: thus, a splintering or depression of the inner table may sometimes be clearly demonstrated, occasionally an abscess, tumor, or cyst; on the other hand, it may show nothing abnormal whatever. Under such circumstances, little reliance is to be placed upon the results of x-ray examination, particu-

larly if definite focal symptoms are present. In my opinion skiagraphs of the head are of little value in any case unless they are stereoscopic; it is also necessary, especially in doubtful cases, to take several films at different angles in order to be fairly certain.

Valuable information may also not infrequently be obtained from an examination of the cerebro-spinal fluid. I am perfectly aware of the fact that considerable difference of opinion exists as to the safety or desirability of lumbar puncture in cases of head injury; objections to the employment of the procedure, based on its danger in such cases, apply only to recent injuries, and in the class of cases which I am here considering, it is perfectly safe. Examinations for sugar and albumin should be made, and the fluid examined microscopically; above all, the pressure should be determined carefully, and it may be, at various intervals. In making this determination, the manometer should be employed, as in this way only can slight changes in pressure be ascertained. It has been shown by Quinke that increased pressure of the cerebrospinal fluid may persist for months and even years after an injury to the brain. Such increase may be slight, but it is important for the reason that occasionally it may furnish the only objective evidence in favor of a material foundation for the subjective disturbances complained of.

From all this, it is very evident that a complete and thorough examination of a patient who has had an injury to the head may be a very complex procedure, laborious and time-consuming; fortunately, those who require so much are fewer in number, especially in civil practice.

*Estimation of Disability.* In conclusion, a few remarks upon the estimation of disability may be added. The examination having been completed, and the fact determined that some sort of disability is present, to what degree does this affect the claimant's earning capacity, expressed in terms of percentage? It is scarcely necessary to say that any opinion will always be more or less arbitrary, since there is no standard by which we can measure the functional capacity of an individual in relation to his work. But for the purposes of workmen's compensation, the question must be answered to the best of our

ability. The figures which follows seem to me to be fair.

In the first category are cases with loss of bony substance, without any symptoms whatever, which cases, moreover, are rare in civil life. Actual disability may not be present, but it is conceivable that they are more vulnerable to future injury; and aside from this, are entitled to some compensation: in such cases, I would say that the permanent disability should be rated between 5 and 30 per cent, depending upon the size of the osseous defect.

Next are the cases which form the large majority of all claimants: those in which the common subjective syndrome above mentioned is present. This syndrome may vary from mild to severe in its manifestations. In the cases usually seen, having more or less frequent headaches, transient attacks of dizziness, and possible slight hebetude or indifference, I would place the minimum disability at 5 per cent, the maximum at 20 per cent, with the average falling in the neighborhood of ten per cent. In the more severe types, with more or less constant and severe headache, true vertigo, and pronounced psychic changes, the disability may range from twenty to fifty per cent; and finally some cases in this class may present symptoms of such extreme grade as to amount to complete disability, or 100 per cent. These are very rare, however.

When dealing with epilepsy, it must be established beyond doubt in the first place that it is of traumatic origin. Such being the case, the disability in the generalized form may vary from 10 per cent to 100 per cent, depending upon the frequency and severity of the attacks. In the localized form, if surgery offers no prospect of relief or cure, and again depending upon the frequency of attacks, and also upon the part affected, the percentage of disability varies between a minimum of 25 and a maximum of 75 per cent.

Various local paralyses should be estimated in terms of the parts affected, such as hand, arm, leg, etc.

#### SUMMARY

The estimation of permanent disability following head injuries presents an extremely difficult problem.

It is difficult because the examination is frequently a highly technical one, because the dis-



abilities and symptoms complained of are largely subjective, frequently intermittent, and sometimes latent, and because malingering is often present and hard to rule out.

Under such circumstances, the collaboration of a surgeon, a neurologist, and an oculist and aurist is imperative.

For estimating disability, cases of head injury may be considered under five different clinical forms. One of these forms, comprising those cases presenting diffuse, non-localizing symptoms, is the one which is encountered by far the most frequently.

A complete examination should include a careful history, a general physical examination, a special neurological, ophthalmological and aural examination when indicated, a radiograph, and a lumbar puncture.

Estimates of permanent disability are suggested.

## THE INTERPRETATION OF A DOUBTFUL WASSERMANN REACTION\*

FRANK B. LUSK, M. D.

CHICAGO

To recognize disease, largely, through its history and symptomatology, is an art of which future medicine must needs take cognizance, if she be hopeful of realizing her present ambition of detecting that disease before it becomes characterized by gross anatomical alteration. The latent and obscure forms of syphilis, with their indefinite history, their ambiguous symptoms and physical findings and their ill-defined Wassermann reactions, present only vague evidences of physiologic dysfunction, the etiology of which is difficult to fix.

In a study of patients known to have had syphilis, Moore<sup>1</sup> found 72 whose spinal fluid exhibited some slight evidences of abnormality, although the Wassermann reaction, done on both the blood and spinal fluid, was negative. Being free from symptoms and physical findings indicative of lues, he styles them asymptomatic neurosyphilitics. Using other groups as premises, he argues, through further study, to the conclu-

sion that these are potential neurosyphilitics, who if treated at this stage almost never develop full blown tabes or paresis. His convincing work stands as an unconscious explanation of why, as Fordyce<sup>2</sup> says, "the older statistics—failed to recognize a large group of cases with indefinite nervous and mental symptoms, often diagnosed as neurasthenia with nervous breakdown which existed for years before definite degeneration stigmata developed."

The Wassermann reaction today has served to interpret many such nervous breakdowns as syphilis but still falls far short in detecting by itself all syphilitics. The earnest efforts of Kolmer<sup>3</sup> Duke<sup>4</sup> and others in developing modifications that might give us a test of maximum efficiency with a minimum of error, have led to refinements broadening its field of usefulness. Their work stands as an implied exception to Craig,<sup>5</sup> who would have us interpret slight reactions as negative, in the presence of a negative history and slightly suspicious symptoms.

While the significance of a strongly positive Wassermann reaction is beyond dispute and the status of a negative reaction has been accepted as being of value only in a negative way<sup>6</sup> there remain the intermediate reactions, the significance of which has yet to be elucidated. In attempting to obtain an estimate of the value of the least positive reactions, a study has been made of the history, symptoms and physical findings of patients presenting + and ± Wassermann reactions together with the effect of treatment. This has been done with a view of showing that, given their proper weight in the scale of importance, such reactions may be of inestimable service in determining etiology.

*Method of Study.* In explanation of the manner of approach it is to be said that no case was considered that gave a frank history of having had syphilis, except where it was used as a basis of comparison; in which the reaction was used as a check upon treatment; in which, regardless of the indefiniteness of the blood Wassermann, the spinal fluid gave indisputable evidences of syphilis; in which, regardless of the serological findings, the diagnosis of syphilis was evident from the physical findings.

In the following, as will be seen, reference is made only to ambiguous symptoms and findings which might be interpreted as being the result

\*From the clinical laboratory and medical department of St. Mary of Nazareth Hospital.

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of syphilis. Those symptoms and physical findings with a manifest etiology, although they may occur also in the vague and indefinite forms of syphilis, are omitted e. g. nervousness associated with hyperthyroidism, neuritis due to acute infections, diabetes and so forth.

The following points were considered as evidence suggestive of syphilis and constitute the basis for the statistical table. Under family history were considered: the presence of syphilis in the marital partner or parents; miscarriages and premature births; insanity; cerebro-vascular lesions; nervous breakdowns; cranial nerve palsies; neuritis and "rheumatism"; pelvic operations necessitated by the presence of venereal infection. Under personal history were considered: genital sores and infections; neuritis and "rheumatism"; nervous breakdowns; depressions and fears; "lumps" and ulcers "dissolved with medicine"; taking of iodides with subsequent improvement; rectal strictures and ulcerations; ulcerating mouth lesions and so forth.

Under symptoms were considered: constricting pains which might indicate a radiculitis; mental symptoms, loss of memory, inability to concentrate, mental depressions, irritability, nervousness, insomnia, vertigo, tinnitus, headaches, bladder weakness, sexual impotency, numbness, formication, diplopia, awkwardness.

Under physical findings were considered: pupillary irregularities, variation in size and shape, inequalities, impaired light reaction, absent, sluggish or exaggerated tendon reflexes, septal erosions, tonsillar ulcerations, adenopathy, idiopathic anemia, scars and so forth.

In the technique of the reaction we adhered to the more or less conventional method using .1 c. c. of serum, 2 units of complement and 5 to 10 units of antigen (the anti-complementary unit being at least eight times that of the antigenic) with a primary water bath incubation of one hour. The hemolytic system consisted of a 2.5% suspension of sheep cells sensitized with a 4 unit dose of amboceptor. Three antigens were used consisting of an alcoholic extract of beef heart; an acetone insoluble and a cholesterolized (after the method of Kolmer). Interpretation was as follows: A reaction was read + when hemolysis was almost complete with all antigens, and  $\pm$  when hemolysis was almost complete with two antigens and complete with the

third. Re-checking with serum subsequently obtained was not done often enough to be of statistical value, although, where done, the result obtained corresponded closely with those obtained with the first serum.

We are willing to concede that, had the quantitative method of Kolmer been used and spinal fluid examinations made on each patient, the scope of this paper would have been considerably narrowed making the study more critical. However we feel some justification in presenting it as representing what can be done in the way of determining the probable presence of syphilis where the demands of an impatient and intractable public preclude any exhaustive or even systematic study.

*Analysis of Cases.* The italics that mark the heading of each group express a summary of the evidence, based upon what have been considered prerequisites for the diagnosis of syphilis. These prerequisites are, suggestive history, symptoms, physical findings, a + or  $\pm$  Wassermann reaction and response to anti-syphilitic treatment. At least three of these prerequisites were considered necessary for a diagnosis of syphilis. Response to treatment, being a test of the correctness of the assumption, was given additional weight.

Out of 181 patients whose sera yielded a Wassermann reaction reading + or  $\pm$  28 were considered unsuited for this study on the basis of findings previously discussed, while upon 87 no data were obtainable. The remaining 66 were divided as follows:

Group 1. *In which the preponderance of evidence warranted a probable diagnosis of syphilis.* In this series, introduced for the sake of comparison there were 8 patients all of whom gave a positive history of syphilis. In 7 cases either the symptoms or physical findings and in 6 both the symptoms and findings, might have been interpreted as being due to syphilis. In one patient having lightning leg pains and slightly irregular pupils the blood Wassermann was negative and the spinal fluid Wassermann +. Another patient with an aortitis and associated myocarditis showed no measurable improvement under treatment. Still another with an iritis, optic neuritis and sluggish patellar reflexes showed but slight improvement. In all, however, there were present at least two of the pre-



requisites in addition to some fixation of complement.

Group 2. *In which the preponderance of evidence warranted a presumptive diagnosis of syphilis.* It is this group, with its vague but suggestive evidences of syphilis, that exemplifies what is understood by the clinical manifestations of pathological physiology, the presence of which must be considered the forerunner of morphological tissue changes. The fact, that all presented some fixation of complement, that all presented at least two additional prerequisites and that all responded to antiluetic treatment warranted the assumption that the basis for the symptoms and physical findings was syphilis. There were in this group 22 patients, in 20 of whom the symptoms, in 17 of whom the physical findings, and in 12 of whom both the symptoms and physical findings, might have been interpreted as due to syphilis. One patient with a loss of memory, arterial thickening, uncertainty of gait and absent patellar reflexes gave a negative blood Wassermann and a  $\pm$  spinal fluid Wassermann along with a suggestive luetic curve with colloidal gold. He improved markedly under treatment. Another had had seven operations for abdominal pain. She likewise improved under treatment. Of the 2 presenting but slight improvement, one was a child with chorea, enlarged spleen, retarded development and general adenopathy whose parents were both luetic. The other, whose husband was luetic, presented a hypertension and cardiac symptoms associated with an aneurysmal dilatation of the aorta.

The following case histories exemplify the type of cases used in this study:

Mrs. A.—Husband syphilitic. For one year, off and on, had symptoms resembling gall bladder disease with decided tenderness over the gall bladder area. Her blood Wassermann was  $\pm$ . Dietary management for six months was without benefit. Following a course of anti-luetic treatment she has been free from symptoms for three years.

Miss B, aged 32 years, was suffering from chronic sinusitis, a slight secondary anemia, underweight, constipation and a mildly active apical tuberculosis. Despite the fact that these conditions were corrected there was no striking improvement. Father came under observation one year later suffering from dizziness, tinnitus, hypertension and a  $++$  blood Wassermann. A blood Wassermann was then done on the daughter with a  $\pm$  result. Under anti-luetic treatment she

gained seven pounds in two months and showed marked amelioration of her symptoms.

Miss C, aged 34 years, suffered from nervousness, constricting pains, melancholia and exaggerated patellar reflexes. Blood and spinal fluid Wassermann was  $\pm$  with an atypical luetic curve with colloidal gold. Marked improvement under anti-luetic treatment.

Group 3. *In which the preponderance of evidence warranted a doubtful diagnosis of syphilis.* This group, which comprised 6 cases, while conforming in general to group 2, is considered separately because none of these patients responded to treatment. The one patient with a positive history of syphilis had a cerebral thrombosis. One complained of deafness, loss of memory, transitory weakness of the right arm and leg with anisocoria. Another was a patient of eighty years, with arterio-sclerosis and sluggish pupillary and patellar response. Hence 3 patients presented vascular lesions, which even if luetic might not yield to anti-luetic treatment. But, in the light of what we have considered prerequisites for a diagnosis, the preponderance of evidence must be considered as unfavorable for the diagnosis of syphilis.

Group 4. *In which, in the absence of treatment, the diagnosis was unwarranted.* In this group of ten cases, the data pertaining to them, as will be seen from the table, corresponded closely to that of the preceding group. In the 2 patients with a positive history the rest of the findings parallel those of the cases described in group 1.

Group 5. *In which the preponderance of evidence was against the diagnosis of syphilis.* This series of 20 cases is inserted as proof that a  $+$  or  $\pm$  Wassermann may occur in conditions decidedly non-syphilitic in character and emphasizes what was stated earlier, that such reactions are of value only when given their proper weight in the scale of importance. In almost all instances the test was done with a view of ruling out syphilis. Only one patient gave a positive history. The symptoms of intermittent attacks of abdominal pain, nausea and vomiting, which occurred in this case, disappeared upon correcting an existing colitis. In view of the fact that the symptoms and physical findings present could be explained upon the basis of the existing pathology, no account was taken of suggestive family or personal history. Two patients, one suffering from pernicious anemia, the other

with a brain tumor, received anti-luetic treatment without benefit. One patient suffering from cerebral apoplexy was classed as "undetermined," because the underlying vascular lesion might have been syphilitic. Among the others there were two patients with a carcinoma of the esophagus, one suffering from a liver abscess, another from encephalitis lethargica, another from a sarcoma of the inguinal nodes. These illustrate the nature of the diseases in which a  $+$  or  $\pm$  Wassermann reaction was found. Of course some of these patients, in addition, may have been syphilitic, but the preponderance of evidence as here investigated was against such an assumption.

#### CONCLUSION

From the above study, by comparing and contrasting the different groups one must arrive at the conviction that a  $+$  or  $\pm$  Wassermann reaction may not be regarded as inconsequential. It is a symptom of dominant importance which, where found, needs carefully to be correlated with the history, subjective symptoms and physical findings. And when, after discriminating investigation, these remain inexplicable on the basis of the existing pathology or are without a recognizable etiology; and when further they are such as might occur with a luetic infection, such reactions, reasonably, may be presumed to indicate the presence of syphilis. When added to this there is an amelioration of symptoms with anti-luetic treatment, the presumption assumes a high degree of probability.

4656 N. Paulina Street.

#### STATISTICAL ANALYSIS OF 66 CASES STUDIED

	Groups—				
	I	II	III	IV	V
Number of Cases.....	8	22	6	10	20
History Positive .....	8	0	1	2	1
History Suggestive .....		12	3	6	..
Symptoms Suggestive .....	7	20	6	7	..
Physical Findings Suggestive.....	7	17	4	4	..
Sympts. & Phys. Finds. Suggest....	6	12	2	4	..
Wasserman $+$ .....	3	10	2	5	8
Wasserman $\pm$ .....	4	10	4	5	12
Blood Wasser. Neg. Sp. Fl. Posit. 1		2	0	0	0
Number Cases Treated .....	8	22	6	10	2
Improvement A. None.....	1	0	6	..	0
Improvement B. Slight.....	1	4	0	..	0
Improvement C. Marked.....	6	18	0	..	0
Evidence Favoring Syphilis.....	8	22	2	5	11
Evidence Against Syphilis.....	0	0	3	3	19
Evidence Undetermined .....	0	0	1	2	1

By "history positive" is understood that the patient had full knowledge that he at one time was syphilitic, whereas "history suggestive"

means that the possible presence of syphilis was inferred.

Under "symptoms" and physical findings are enumerated the number of times either or both were present, reference being made to only those symptoms and findings that might be interpreted as due to syphilis.

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#### THE ETIOLOGY AND TREATMENT OF THE NEUROSES\*

MANDEL SHERMAN, M. D., Ph. D.

Washington Child Research Center

WASHINGTON, D. C.

The purpose of this paper is to trace the development of the psychogenic theory of the neuroses and to discuss briefly the treatment of functional nervous disorders. By the term psychogenic is meant the influence of the past experiences of the individual in determining the symptomatology of the nervous condition. The psychogenic basis of the symptoms in all mental disorders, whether functional or organic in origin, will also be pointed out.

When the cause of nervous conditions was first looked for by medical men many years ago they naturally turned to the study of the nervous system. The search for defects of the nervous system as the basis of the symptomatology of "nervous" and mental disorders was influenced by the then current theories of the localization of function in various parts of the brain. If, as was at one time supposed, mental phenomena such as emotion, intelligence, perseveration, and so on, resided in precise portions of the brain, it was logical that the brain be studied in order to discover the lesions occurring in these patients. The work of these investigators produced but little data relevant to the explanation of nervous disorders, except for the important

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contributions to the understanding of the brain pathology in the organic psychoses. This failure in productive research of the worker who attempted to account for nervous disorders in terms of brain pathology and the realization that particular mental phenomena are not definitely localized in precise portions of the brain caused most of the investigators to turn their attention to other problems of the nervous patient.

Following this period of research in the field of brain pathology the attention of investigators turned to the study of bodily disturbances. It was found, for example, that the neurotic individual is rather weak physically, and it was assumed by many medical men that nervous patients suffer from some disease process which undermines the general health and nutrition and secondarily causes the nervous symptoms. The study of various bodily functions came into further vogue with the development of physiological chemistry and laboratory methods. Sporadic attempts were made to relate causally disturbances of various physiological functions to the symptoms of the nervous individual. The blood sugar content, for example, was reported to be increased in nervous and mentally disturbed patients. Other bodily defects were ascribed as the cause of nervousness, such as heart and kidney defects, malnutrition, primary weakness of the visceral and somatic musculature, and so on. These theories, however, were founded upon an inadequate study of few individuals, and were soon dispelled by a more careful investigation of these bodily functions. It was found, for example, that the blood sugar content is not distinctly different in the nervous patient. In regard to muscular weakness and disturbances in the viscera, it was shown that these findings were secondary to the primary nervous condition, that is, the neurotic individual, because of his anxieties and worries, does not pay proper attention to his physical condition, and as a result develops constipation, digestive disturbances, and so on.

One of the most prevalent theories which existed at the beginning of the twentieth century, and which still finds some support among a few medical men maintained that one of the most important causes of nervousness and of many insanities is an intestinal autointoxication.

The findings of an enlarged lower bowel with intestinal stasis are cited as proof of this theory. Temporary cure, and in exceptional cases permanent recovery, following the removal of various parts of the large bowel has been cited as additional proof of the assumption that intestinal stasis and intoxication are the cause of nervous conditions. It is not necessary to enumerate all of the facts which are directly contradictory to this theory, of which there are many, but it is important to mention two factors which make this theory quite doubtful. First, experimental work has failed to produce definite evidence as to the presence of intoxicants in the blood stream of the nervous patient. Second, a temporary recovery in some cases adds but little proof to the validity of this theory of the causal condition. It has been shown that a group of nervous patients may recover when each individual is treated by a distinctly different method. Now, if the proof of a theory were to be based upon the treatment in individual cases there would be dozens of theories, all of which would be similarly valid. Furthermore, many patients are temporarily cured because of having been under some form of treatment, and in the case of the resection of the bowels the shock of the operation may temporarily reorganize the mental functions. This theory of the causal relationship of intestinal intoxication to the neuroses and psychoses may very well be reversed with much greater proof in the opposite direction. It is a commonly known fact that the sympathetic nervous system, for example, functions prominently in such emotional states as anxiety and worry and as a result exerts an inhibitory effect upon the activity of the intestinal tract. This inhibition of the intestinal tract accounts for the stasis and enlargement of the gut in many nervous patients.

Recent theories of the causes of nervous disorders have frequently dealt with hereditary factors, and the assumption has been made that the nervous individual develops his symptoms because of defects due to hereditary causes. The problem of the differentiation between inborn and acquired mental characteristics is still in a very unsettled state, from both the purely psychological and medical standpoints. Most of the experimental work upon this problem has led to greater confusion rather than to a clarification of the issues involved. However, experimental

psychology has, within the past ten or fifteen years, contributed a great deal of data which indicate clearly that the generally accepted doctrines regarding the instincts must be radically modified. The experimental psychologists have shown that probably the human individual inherits little that can be called instinct and that various behavior characteristics which are ordinarily supposed to be instinctive are in reality acquired during the first few years of life. The term "instinct" is at any rate misleading since it is not explanatory and does not take into account the possible factors of environmental influence. The frequent attempts by a few medical men to explain the symptoms of most nervous conditions in terms of the unequal development of the instincts or in terms of the neurotic's nervous system being "long or short" in one direction or another are certainly due to the lack of psychological information. It is not the purpose of this paper to discount hereditary factors as possible causes of the development of the neuroses and the psychoses, but it must be emphasized that an exhaustive study of the environmental factors must be made in all cases before heredity may be ascribed as the etiological factor.

The attempt of some psychiatrists, in recent years, to formulate the doctrine of "constitutional make-up" of various types as an explanation for the development of nervous disorders is but another effort causally to relate the symptomatology to some hereditary defect. These theories sound attractive at first, but they cannot be accepted before further factual data are produced to substantiate their claims. Diagnoses such as "constitutional inferiority" and "psychopathic personality," which are often made by psychiatrists who believe in the theory of "constitutional make-up," are quite worthless in that they fail to imply any adequate explanation of the etiological factors.

The presence of a nervous disorder in the immediate family of the patient is one of the most frequent causes of the failure of the physician to differentiate between hereditary and acquired characteristics. One is often content to accept the hereditary basis of a nervous condition when the parents of the patient present similar symptoms, and the important factors of imitation, training, and the direct taking over of the parents' habits by the patient are over-

looked. The following case is briefly described as a typical example of the direct environmental influence in the development of a neurosis.

G. N. is a boy twelve years of age who was brought for examination by the mother because of "nervousness." The specific symptoms were restlessness, frequent loss of temper, a great many fears, inability to sleep at night, and a poor appetite. The boy was said to be afraid of going to sleep at night for fear that burglars might enter the house. The boy was in the seventh grade at school, and doing good work. He had few playmates, preferring to spend his spare time in reading. The examination of this boy showed him to be well developed with no physical defects. Mental tests showed him to be of normal intelligence. Psychiatric examination gave no definite clues as to the cause of his fears, except for his statement that his father was also afraid of burglars entering the store. The mother was questioned and she stated that the father was also nervous. When the examiner talked with the father the problem became much clearer. The father was a highly neurotic individual who had been under treatment for the past year because of "nervousness." He stated that he often became weak, was very restless, and was constantly demanding attention from his wife and the boy. He also had a great fear of robbery, and insisted on either the wife or the boy staying with him in the store after dark. The boy was not treated psychiatrically, but the father's attending physician reported, after a period of about six months, that the father was greatly improved. Although the boy was not given any treatment, he was reported to be practically normal.

This case illustrates the development of neurotic behavior in a boy, the symptoms corresponding very closely to those of the father. With the improvement of the father the boy also showed improvement. The boy simply took over the attitude about him, and the symptoms disappeared with the improvement of the environmental situation.

More important than the direct environmental training in the development of the neuroses is the development of conflicts, especially when they are repressed. The symptoms as a result of the repression of these conflicts serve as a method, usually not developed with any conscious purpose, by which the individual explains his behavior or compensates for frustrated desires. Conflict from the psychiatric standpoint implies a situation involving incompatible motives so that the individual finds it difficult to carry out his desired activities.

In order to illustrate the role of conflicts in the development of neurotic behavior I shall cite the case of B, a woman 35 years of age,



who came to the clinic because of a partial paralysis of the right arm. This patient gave a history of two former attacks, about six and nine months previously. These attacks came on rather suddenly just as she was arising in the morning, and a recovery took place within about a week. The physical examination showed no findings which could account for the paralysis on the basis of any disturbance in the nervous system. The blood pressure was within normal limits, the heart action good, the arteries not sclerosed. The neurological examination of the paralyzed arm showed the condition to be that of an hysterical paralysis. The arm showed a flaccid paralysis, but the patient was able to move the shoulder muscles. In addition there was absolute anesthesia of the forearm and hand. There was also an anesthesia of the cornea and of the pharynx.

The etiology of the symptoms in this case was as follows. The patient's husband was a traveling salesman who left her alone for a considerable part of the year. They had no children, and she had few friends, so that she practically lived alone. The patient did not want her husband to keep the position he held, and yet she did not want to interfere with his business career. She did not want to admit even to herself that she was selfish enough to want her husband to remain at home, and she repressed these wishes so that finally she was not fully aware of them. Then came the solution of her conflicts by means of the paralysis of the arm which brought her husband home. By means of the paralysis she attained her desire, and yet did not feel that she was directly responsible for it. Further questioning brought out the information that the previous attack of paralysis took place just after the husband left for an extended trip, and on both occasions she immediately telegraphed him to come home. The treatment in this case took the form of a careful explanation of the reasons for the paralysis, and a complete recovery took place within a few days. The situation was satisfactorily solved when the husband decided to accept an office position with the firm, giving up his traveling.

Although the case just cited illustrates the method often employed in solving a serious conflict, the greatest number of patients do not solve their problems even in such an unsatisfac-

tory manner as did this patient. Most of the neurotic patients feel constantly worried, and grieve over supposed trifles. The conflicts and the outwardly apparent worries become fixated upon some object, usually in the immediate environment. The nearest object of great importance is the patient himself, and as a result a great number of bodily symptoms are developed. There may be headaches, or palpitating heart, or weakness, and so on. The patient, when questioned about his worries or difficulties, often answers quite honestly that he has none, for, it is important to note, he has repressed them, that is, he has driven them from his direct awareness.

The symptoms of the purely neurotic individual are due either to the taking over of the habits of other individuals in the immediate environment or are developed as a method of solving the difficulties which the patient cannot solve consciously. Although it is true that we all have conflicts, most of our conflicts do not involve major motives and do not interfere with our every-day activities. Also, many individuals are able to solve their difficulties, often to their complete satisfaction, and at other times with certain compromises. The individual who neither solves his difficulties directly nor compromises between the opposing motives develops compensatory behavior by which he either explains his difficulties or justifies his behavior, or relegates his mental difficulties to the background.

In the study of the insanities, where the symptoms are more definite than in the neuroses, modern psychiatrists have turned to the explanation of the disease in terms of conflicts, environmental difficulties, and so on. Even in those insanities which are due to a physical condition, such as general paresis, the symptoms are not the same or even similar in all patients. The basis of the symptoms again lies in the past experiences and difficulties. The following histories of two men suffering from fairly advanced general paresis may illustrate the direct relationship of the environment of the development of the specific symptomatology.

M, thirty-seven years of age, during examination was very affable, cooperative and quite talkative. He stated that he felt fine, and before the examiner could continue the examination, interrupted to tell of his great wealth. He maintained that he owned twenty hotels and a hundred thousand houses in Chicago,

offering the examiner a hotel and a hundred thousand dollars. His stream of talk always included a discussion of wealth, and he managed persistently to turn the conversation in the direction of his possession of an immense sum of money. In brief, the social history showed him to be a laborer earning only a small wage; for years he had had difficulty in providing for his family, which included four children.

A, an Austrian, had been in America for about fifteen years. He was not talkative, but became greatly excited when displeased by anything in the hospital. When asked about money, he answered very promptly that he had very little, that he owned only a small delicatessen store, and that he was in debt for the store. asked about the possibility of his becoming rich later, he shrugged his shoulders and stated that it was a doubtful possibility. When asked about his accomplishments he at once became very garrulous, stated that he had written hundreds of songs of the best kind, that these songs were being broadcasted from all the stations of the world, and that they were being played every night in all of the cafes of Vienna. The history stated that this man was of an intellectual type, attended the opera and concerts, and had himself dabbled in music for a time, learning to play the piano rather well.

These two cases illustrate, first, that the mental symptoms may vary widely in different individuals in whom it is known that there is a similar and definite physical condition; second, the symptoms depend upon the past experience of the individual; and third, the symptoms developed are a means of attaining an end which in ordinary life could not have been reached. Just as the neurotic individual may develop a paralysis of the arm or get a severe headache which results in a solution, even though temporary, of his immediate difficulties, so the psychotic individual develops symptoms which are a solution of his past difficulties and desires. The neurotic person differs from the psychotic only in that the latter has lost all notion of the difference between real and imaginary conditions of life, and has no insight into the possibility of his behavior being assumed.

In the two cases just cited, the physical disturbance was the irritating condition of the disease, but did not determine the mental manifestations. Similarly, in the neurotic individual, although physical defects may be present, these defects are not the determinants of the nervous condition. It is true that irritation from any source may aggravate and prolong a neurosis, but it is important to consider the organic condition not as the sole cause of the neurosis. The

analysis of the etiological factors is rarely complete when a physical defect is found, and an investigation of the conflict and environmental difficulties should be made in all cases.

In the treatment of the neurotic individual it is important, first of all, to consider the patient seriously. This does not mean that the patient should be made to feel that his symptoms are important, but he should be listened to attentively. The statement is often made that the symptoms of a neurotic individual are imaginary, and the physician often tells the patient that he is imagining everything. Nothing can be further from the truth. The patient really has a headache, or does feel nervous, or really believes that he has a paralysis of the arm. Were one to reason that the patient imagines his symptoms one would be driven to say that every person imagines the ideas he believes in.

It is evident that the investigation of the conflicts of the individual is of prime importance. Direct questioning, however, may not reveal the nature of these conflicts, as the individual may not be aware of his real difficulties, or he may be loath to speak of them. In all cases it is profitable to make an objective investigation of the social, economic, vocational and family situation. Often a careful history regarding these factors, taken from individuals other than the patient, will reveal information indicative of the true nature of the difficulty. Freud, who has done a great deal in the direction of a rational explanation of the neuroses, lays great stress upon the sexual life of the patient. He maintains that most of the symptoms of the neuroses are due either to suppressed desires or worries about sexual matters. That this factor is important is evident, for example, from the large number of cases in which the symptoms may be traced directly to worries over masturbation. The nature of the conflict may often be successfully revealed by the use of objective tests which have been developed by psychologists. Such tests as the Kent-Rosanoff association or the Pressy Scale of Emotions may often indicate the true nature of the conflict when direct questioning or social investigation fail.

A readjustment of the environmental situation is often indicated in the treatment of the neurotic patient. For example, removal from a voca-



tion to which the patient is unsuited may be helpful, or reeducation of the attitudes of the other members of the family towards the patient may facilitate the treatment. Removal of the patient from the home is often necessary when the other members of the family interfere with the treatment, but such a procedure should not be carried out at the instance of the patient only.

Surgical and medical treatment must, of course, be instituted when indicated; drugs, such as sedatives, should be utilized only as temporary measures. There is always a danger, however, in the use of medication in that it tends to give the patient the impression that he is suffering from some organic disease. In all cases the specific treatment is that of giving the patient a careful and detailed explanation of the nature of and the reasons for his conflicts, and of helping him to solve his difficulties.

---

#### PLACEBOES

"Please, now, honey just one more."

"No."

"Why not? Don't hold off just to be mean."

"No."

"It means so much to me, dearest. Please now, just one more and then I'll promise——"

"No."

"Most girls would be flattered to death to have me urging them like this—know that?"

Still she shakes her head.

"Don't you want me to even like you any more?"

"Ye-es."

"Well, then, you might be a little more agreeable about such a small matter, dear."

"No."

"Come one, now, be a good sport, dear. Just shut your eyes——"

"No."

"Open those red lips just a tiny bit——"

"No."

Silly, isn't it? But after all, he was only trying to get that last spoonful of cereal inside his little daughter.—*Master Painter and Decorator.*

---

The city kid was roaming about in the country when he came upon a dozen or so empty condensed milk cans. Greatly excited, he yelled to his companions: "Hey, fellers, come here quick! I've found a cow's nest!"

---

English Clergyman—"And when you arrive in London, my dear lady, don't fail to see St. Paul's and Westminster Abbey."

Fair American—"You bet, I'll rattle those off sure, but what I've been hankering to see ever since I was knee-high to a grasshopper is the Church of England."

## Society Proceedings

### CHRISTIAN COUNTY

On the evening of Thursday, July 19, the Christian County Medical Society met in semi-annual session at the Country Club of Taylorville, where those who enjoyed the sport played golf in the afternoon and dinner was served at 6:30 with 25 guests at the table. Several others came in later to hear the addresses of the evening.

Dr. Carl Black of Jacksonville and Dr. Frank P. Norbury of the same city were with us and each gave us a splendid address which brought out a fine discussion. Dr. Norbury spoke first and his subject was: "Early signs and Symptoms of Mental Disorder." After some revision this paper will be published in the JOURNAL as a part of the program of this meeting.

Dr. Carl Black's topic was "Evolution in Diagnostic Methods," in which he brought out certain methods of arriving at the diagnosis, and along with this he diverged a little to mention the trend of medical practice towards State medicine—or otherwise, as we make it.

Each paper was enjoyed by about thirty members and visitors from other cities. Among the visitors were Drs. Neece and Archbold of Decatur and Newcomb of Jacksonville.

Dr. Miller of Assumption was elected to membership and two others were elected by transfer.

In going over the records of this society for the history the state is getting out, the secretary has been much gratified to see the excellent programs that have been so constant in this society and to note the general progress of the society through the most trying times of its existence.

D. D. BARR, *Secretary.*

---

### Marriages

EDWIN F. CONDON, Rock Island, Ill., to Miss Mary Ursula Showalter of Davenport, Iowa, July 18.

NICOLA V. EMANUELE to Miss Catherine Salerno, both of Chicago, July 8.

BERNARD P. MULLEN, Chicago, to Miss Helen Winifred Marr of Racine, Wis., June 30.

MILO H. TROVILLION to Miss Minnie Smith, both of Metropolis, Ill., June 29.

---

### Personals

Dr. and Mrs. W. W. Greaves, LaSalle, Ill., sailed Aug. 4 for 6 weeks' visit to England and France.

Dr. Otto L. Schmidt has resigned as a member of the school board of Chicago.

The University of Wales recently awarded the honorary degree of LL.D. to Dr. Franklin H. Martin.

Dr. Julia C. Strawn was recently made president of the Medical Women's Club of Chicago and Dr. Ione F. Beem, president-elect.

Dr. Clarence W. Hopkins, chief surgeon, Chicago and Northwestern Railway, gave a public lecture on "Health and Efficiency" at Springfield, July 12.

Dr. Francis L. Lederer has been appointed assistant professor of laryngology, rhinology and otology at the University of Illinois College of Medicine on half time.

Edwin O. Jordan, Ph.D., professor of bacteriology and chairman, department of hygiene and bacteriology, University of Chicago, has been appointed Cutter lecturer on preventive medicine at Harvard University for the year 1928-1929.

Dr. Ira W. Ellis, Murphysboro, was the guest of honor at a testimonial dinner given by the local physicians, August 8; Dr. Ellis has been in practice about forty-five years, thirty-nine of which have been spent in Murphysboro.

A joint meeting of the Macoupin County Medical Society and the Rotary Club of Staunton was held, July 24, in honor of Dr. David L. Bley, who has practiced medicine about fifty-three years. Among the speakers at the luncheon was Dr. Charles H. Nielson, St. Louis, and his subject, "Fifty Years of Medicine." Dr. Bley's father, two brothers and their sons have all been physicians.

Dr. Andrew M. Harvey of LaGrange, chief physician and surgeon medical department of the Crane Company, Chicago, was honored, June 12, by election as president of Knox College Alumni Association from which he was graduated in the class of 1889.

### News Notes

—The Adams County Medical Society is arranging for one of the most important and outstanding medical meetings of the year to be held at Quincy, Illinois, on October 15.

Seven leading professors from Northwestern University Medical School of Chicago are coming to Quincy to put on a program of exceptional interest to the general practitioner. There will

be papers on obstetrics, fractures, heart disease, and infections of the hand.

The professors who will appear on the program are Doctor Joseph B. DeLee, Professor of Obstetrics; Doctor Irving Samuel Cutter, Dean and Associate Professor of Medicine; Doctor Allen Buckner Kanavel, Professor of Surgery; Doctor James Gray Carr, Associate Professor of Surgery; Doctor William Roberts Cubbins, Associate Professor of Surgery; Doctor Harry Edgar Mock, Assistant Professor of Surgery.

The meeting will begin promptly at nine o'clock, Monday morning, October 15, and will continue throughout the day. A special luncheon will be served at noon and a banquet will be given in the evening.

The Adams County Medical Society have had these all-day clinical meetings for several years at which time outstanding physicians and surgeons of the country have been brought to Quincy to present subjects of interest to the specialist and the general practitioner.

—The Chicago Council of Medical Women has a fund which it uses to assist women medical students to complete their medical education.

—The Schuyler County Medical Society invited the Adams County society to meet with them at Rushville, August 23, when, following an afternoon of golf, there was a dinner and a scientific program.

—The cost of "Cancer Day" in Quincy, May 2, held under the auspices of the Adams County Medical Society, was \$440, all of which was contributed by physicians, except a contribution of \$75 by the city health department. The three largest items of expense were advertising in the local paper, rental for the theater, and printing.

—No other state with a 1920 population of four million or more has reported an average annual death rate as low as that in Illinois during the last seven years, according to the Illinois State Department of Health. The average annual death rate in Illinois from 1921 to 1927 inclusive was 11.4; of Ohio, 11.5; of Michigan, 11.7; of Massachusetts and Pennsylvania, each 12.4; of New York, 12.8, and of California, 13.8.

—The hospitals to be erected by Northwestern University Medical School on the McKinlock Campus, East Chicago Avenue near the lake, includes the 200 bed Passavant Hospital, which is under construction at Superior Street and



Fairbanks Court; a 300 bed general hospital south of the medical school building and facing the Passavant Hospital; a 125 bed children's memorial hospital directly east of the Passavant Hospital, and a 200 bed maternity hospital on Superior Street east of the children's hospital.

—A picnic will be held at the Old Salem Chautauqua grounds, Petersburg, September 12, a special feature of which will be an address on surgery by Dr. George W. Crile, Cleveland, and an address on medicine by Dr. John Phillips of Cleveland. All members of the Illinois State Medical Society and their friends are invited. "Come spend the day and visit the former home of Abraham Lincoln." Dinner will be served by a Springfield caterer regardless of weather, as there is a large pavilion. Send reservations to Dr. John R. Neal, Springfield, chairman, committee of arrangements.

—At a meeting, August 2, a committee considered the present status of work on vaccination against tuberculosis with the *Bacillus Calmette-Guérin*, and especially the application of this method of vaccination to the general public by the Chicago Municipal Tuberculosis Sanitarium, where this organism has been studied by animal experimentation for about one year. The committee comprised Drs. Ludvig Hektoen, professor and head of the department of pathology, Rush Medical College; David J. Davis, dean of the University of Illinois School of Medicine; Julius H. Hess, professor of pediatrics, University of Illinois School of Medicine; Henry C. Sweany, medical director, Municipal Tuberculosis Sanitarium; Elsa Lagergren, of the Göteborg (Sweden) Children's Tuberculosis Hospital, temporarily on duty at the Chicago Municipal Tuberculosis Sanitarium, and Benjamin Goldberg, secretary, board of directors of the sanitarium. The conclusions of the committee were to the effect that the *Bacillus Calmette-Guérin* does not tend to stability as far as its virulence is concerned, some strains becoming virulent to the extent that animals inoculated die as a result of the inoculation, and that results reported thus far from the use of oral inoculations with this organism do not seem to be conclusive evidence that protection can be secured. The committee was of the opinion that the method must be regarded as in the experimental stage, and therefore not suitable at this time for widespread

application to human beings, either through oral administration or into the tissues directly. It seems proper, the committee reports, since years are required to determine the value of a process of this type, to await the results of the use of this vaccine in other communities where it has been on trial a number of years, and to continue at the Chicago Municipal Tuberculosis Sanitarium only animal experimentation and carefully supervised limited human inoculations.

—A report issued by the Illinois Association of Criminal Justice in cooperation with the Chicago Crime Commission, August 11, indicates that, with one exception, the present staff of coroner's physicians in Cook County is incompetent to perform properly the important medicolegal duties which pertain to the office. The report states that not one of the physicians appointed by the present coroner has shown any tangible indication of being interested in any real sense in medicolegal work. No member of the staff of the present coroner holds a position as a hospital pathologist, and only one holds a teaching position in a medical school and that in the department of internal medicine. An examination of present records of the coroner's office disclosed, the report continues, not a single record of a thorough and complete necropsy performed according to accepted standard methods. The present records are considered practically worthless, therefore, in establishing the cause of death for any purpose and of doubtful value as the basis for evidence in criminal trials. The work of the only physician on the coroner's staff, who was appointed by a former coroner, was commended. The other members of the medical staff are so untrained for medicolegal work as to be in great contrast to the experienced pathologists who assisted the previous coroner, five of whom were engaged in teaching pathology in medical schools, and whose interest in medicolegal work was indicated by the fact that they published fourteen scientific papers on medicolegal subjects. Some of these skilled pathologists had been on the former coroner's staff for many years, but when the present coroner took office they were discharged or forced to resign. Experience indicates, the report says, that, in the hands of a competent, energetic and progressive coroner, the office of coroner with modernized modifications can meet fairly the needs of the

population it serves. The essential requirement, however, is that the coroner's physicians be appointed on a professionally expert rather than on a political basis.

## Deaths

ROY W. BARTHOLOMEW, Evanston, Ill.: Chicago Homeopathic Medical College, 1900; member of the Illinois State Medical Society; aged 51; died, July 6, at the Evanston Hospital, of heart disease, following pneumonia.

EUGENE GREGORY CLANCY, Chicago; Rush Medical College, Chicago, 1903; a Fellow, A. M. A.; served during the World War; aged 51; on the staff of the Frances E. Willard Hospital, where he died, August 1, of coronary thrombosis and edema.

WILLIAM H. DAVIS, Fairfield, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1879; member of the Illinois State Medical Society; aged 77; died, July 9, at the Olney (Ill.) Sanitarium, of cerebral hemorrhage.

BENJAMIN EDELSTEIN ELLIOTT, Chicago; Northwestern University, Medical School, Chicago, 1910; a Fellow, A. M. A.; associate professor of obstetrics, Loyola University School of Medicine; served during the World War; aged 41; on the staffs of the Misericordia Hospital and the Mercy Hospital, where he died, August 2, of embolism.

JOHN EDWARD FAIRCHILD, Maywood, Ill.; University of Illinois College of Medicine, Chicago, 1926; a Fellow, A. M. A.; aged 30; died, June 25, at the Municipal Tuberculosis Sanitarium, Chicago, of pulmonary tuberculosis.

EDWARD L. HILL, Jacksonville, Ill.; Medical Department of Washington University, St. Louis, 1895; a Fellow, A. M. A.; managing officer of the Illinois State Hospital; aged 58; died, July 12, of general arteriosclerosis and cerebral hemorrhage.

LOUIS BURTON JOLLEY, North Chicago, Ill.; Hahnemann Medical College and Hospital, Chicago, 1905; a Fellow, A. M. A.; formerly mayor of North Chicago; on the staff of the Victory Memorial Hospital, Waukegan; aged 50; died, August 1, at Torch Lake, Mich., of carcinoma of the pleura.

HARRY KAHN, Chicago; Northwestern University Medical School, Chicago, 1898; member of the Illinois State Medical Society and the American Academy of Ophthalmology and Oto-Laryngology; formerly instructor in pharmacology, clinical ophthalmology and otology at his alma mater; attending oto-laryngologist to the Michael Reese Hospital; aged 59; died, July 17, at the North Shore Health Resort, Winnetka, Ill., of cerebral hemorrhage and hemiplegia.

JACOB A. KRUMRINE, Chicago; University of Pennsylvania School of Medicine, Philadelphia, 1867; aged

86; died, July 31, of arteriosclerosis and gangrene of both feet.

MERRITT E. LANGSTON, Peoria, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; member of the Illinois State Medical Society; aged 57; was found dead in bed, June 28, probably of mitral insufficiency.

DANIEL LICHY, Rockford, Ill.; Chicago Medical College, 1871; a Fellow, A. M. A.; past president of the Winnebago County Medical Society; Civil War veteran; for many years member and at one time president of the board of education of Rockford; formerly president of the board of trustees of the Rockford Municipal Sanitarium; aged 83; on the staff of the Rockford Hospital, where he died, July 23, as the result of injuries received in an automobile accident.

MILTON S. MARCY, Peoria, Ill.; Chicago Medical College, 1878; member of the Illinois State Medical Society; aged 73; died, July 21, of heart disease and nephritis.

LEWIS CURTIS MESSNER, Potomac, Ill.; Rush Medical College, Chicago, 1872; for many years bank president; aged 83; died, July 22, of paralysis.

ALLEN K. MOSELY, Grandview, Ill. (licensed, Illinois, 1878); Civil War veteran; aged 83; died, June 29, in a hospital at Paris.

JAY ALBERT POTTER, Lombard, Ill.; State University of Iowa College of Medicine, Iowa City, 1890; aged 67; died, in July, at the Elmhurst (Ill.) Hospital, of injuries received when his automobile was struck by a train.

WILLIAM H. SCOTT, Dallas City, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1885; member of the Illinois State Medical Society; aged 70; died, July 11, of cerebral hemorrhage.

EDWIN MARVIN SHELDON, Ashton, Ill.; Medical Department of the University of the City of New York, 1879; aged 70; was found dead, July 25, of heart disease.

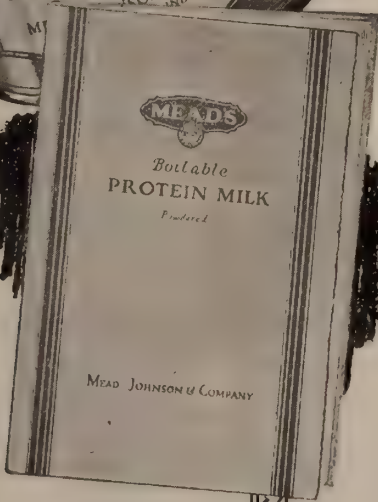
LUTHER PECK WALBRIDGE, Decatur, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1884; Bellevue Hospital Medical College, New York, 1888; aged 72; died, July 15, of heart disease.

FRANK J. WELCH, Bloomington, Ill.; Medical College of Ohio, Cincinnati, 1883; member of the Illinois State Medical Society; aged 68; died, July 7, at Morrow, Ohio, of angina pectoris.

ALEXANDER C. WIENER, Chicago; University of Leipzig, Germany, 1886; a Fellow, A. M. A.; on the staff of the West Side Hospital; aged 67; died, June 11, of carcinoma of the liver.

BENJAMIN E. LE MASTER, Bushnell, Ill.; College of Physicians and Surgeons, Chicago, 1904; formerly on staff of Holmes and St. Francis hospitals, Macomb; served in World War; received gold medal from Queen of Roumania for services as Red Cross surgeon; died suddenly from cerebral hemorrhage while operating in Bacon Clinic at Macomb, May 24.





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## CONTENTS OF BOOKLET

Advantages.....	5
Description.....	6
Preparation.....	7
INDICATIONS AND TREATMENT	
Alimentary Intoxication.....	8
(Cholera Infantum, Ileocolitis)	
Celiac Disease.....	12
Colic in Breast-Fed Infants.....	10
Decomposition.....	10
(Marasmus, Atrophy)	
Diarrhoea in Breast Fed Infants....	9
Premature and New-Born Infants....	11
Bibliography.....	16

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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 249

### ORIGINAL ARTICLES

Carcinoma of the Large Intestine Including the Rectum.  
*Iroin Abell, M. D., Louisville, Ky.*..... 263

Artificial Pneumothorax with High Intrapleural Pressure  
in Patients with Pleural Adhesions. *Royal W. Dunham,  
M. D., Ottawa, Ill.*..... 267

The Abuse of Cesarean Section. *Percy W. Toombs, M. D.,  
Memphis, Tenn.*..... 273

The Relations Which Should Exist Between the Medical  
Profession and Public Health Officials and Workers.  
*Samuel W. Welch, M. D., Montgomery, Ala.*..... 279

Transplantation of Hamstring Tendons for Paralysis of  
Quadriceps Extensor. *Robert O. Ritter, M. D., Chicago* 284

Arthritis. *John A. Macgregor, M. D., London, Ont.* .... 287

Considerations and Mistakes in Diagnosis of Pulmonary  
Tuberculosis. *Roswell T. Pettit, M. D., Ottawa, Ill.*... 293

Heliotherapy: Limitation in Pediatrics. *L. W. Sauer, M.  
D., Evanston, Ill.*..... 296

Prevention of Puerperal Infections. *Henry F. Langhorst,  
M. D., Elmhurst, Ill.*..... 298

Lipoid Nephrosis. *William H. Holmes, M. D., Chicago* . 300

Applied Railway Sanitation. *S. C. Beach, M. D., Chicago* 304

Fundamental Biological Factors in Mental Mechanisms.  
*Frank Parsons Norbury, M. D., Jacksonville, Ill.*..... 309

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

ROBERT J. FOLONIE.....231 S. La Salle St., Chicago

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

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## Editorial

### GO TO THE POLLS AND VOTE NOVEMBER 6

DOCTORS SHOULD TABOO PARTY POLITICS—NOW  
IS THE TIME TO MAKE YOUR INFLUENCE  
COUNT—DOCTORS' TROUBLES ARE ECONOMIC  
PHYSICIANS HAVE TO MAKE THE CHOICE.

BETWEEN A REPUBLICAN CANDIDATE  
WHO IS WRONG ECONOMICALLY AND  
A DEMOCRAT WHO IS RIGHT ECO-  
NOMICALLY—THAT WILL BE  
THE REAL TEST OF THE LOY-  
ALTY TO AN ECONOMIC  
PRINCIPLE

President Coolidge has said, "Every voter ought not merely to vote, but to vote under the inspiration of a high purpose to serve the nation." The job of doing so confronts us November 6.

By the time the physicians of the land spend even more money, and more time, to discover that neither they nor their profession can compete with practical and practicing politicians, the importance of paying more attention to election day will be brought home to every man with an "M.D." at the end of his name who calmly sits back now and lets the country be run by the unscrupulous who are not "too busy to bother" with the ballot.

What economic self-preservation the medical profession has been able to achieve has not accrued from any devotion to citizenship duties, but because of the respect in which, even in this topsyturvy day, the average citizen, still holds the medical profession.

If the doctors of Illinois would attend ever so slightly to their personal citizenship duties,—the task involving their personal participation in all elections—the result would be a near-panacea for a multitude of civic ills, that are insidiously near to eating at the very core of the essence of civilization.

It is no longer a question of a man's "getting"

or "not getting into politics." It is up to the medical men to cry "Checkmate" to politics. For the politicians of the country have already grabbed hold of the very tail of the medical profession, and are literally swinging this august body of men about with as little ceremony as if it were a yellow dog!

Blinking at facts is useless. The entire trend and achievements of legislation in the past twenty years shows how medicine is being made the pawn of politics. In another twenty years the medical profession will find itself, half throttled and altogether ham-strung unless it wakes up. Nor does "waking up" mean that any man can do this deed vicariously. The situation is up to the individual physicians of the land.

Each doctor must doff his toga of science sufficiently long to discover what is going on before the result gives him and his profession, and par consequence, the public health and the virility of civilization,—a knock-out blow. Just as soon as physicians will enter the actual arena of politics and lend their professional support to those ethical lawyers and clergymen who are accomplishing a brave futility in the effort of getting politicians out of politics, there is going to be a marked change in conditions and a re-stabilizing of the foundations of the world's greatest democracy.

Well has it been said that the policies of one set of physicians are in force so long as "fifty and one-tenth per cent of the votes are cast for those politicians, and the opposite policies are in force when one voter in a thousand changes his mind. It is on such extremely slight changes as these that often hangs success in any political field."

Even now, hobbled by the almost ubiquitous lethargy with which the average physician regards elections, candidates and the entire system of democratic government,—physicians have far more influence than they suspect with members of law-making bodies. Wide knowledge, good judgment, public spirit and the gift of vision are sine qua non with every successful man of medicine. Physicians everywhere should realize this imminent necessity for their stating to the public as well as to law-makers, not only the ideals of the profession, but the arguments for their adoption and their absolute bearing upon the health and the wealth of every country. This setting forth of principles, should,

if indicated, be also a going forth to war for the right—a defense of medical ideals and of the country.

Everybody, everywhere may not agree with some of the ideas and dicta of President Coolidge. But every sane minded individual, *anywhere*, must coincide with these assertions of the nation's chief executive:

"Many of the founders of our government gave all their wealth and their lives for the right of franchise.

"The right of franchise is the right to vote.

"It is the most valuable heritage that the American people have.

"The right to vote is more than a privilege.

"It is a duty.

"Our government will continue to give us the opportunity for independence and freedom only if we do our duty towards the government.

"Our duty is to go to the polls and vote intelligently.

"It is our duty to see that each member of our family, who is qualified, votes.

"It is our duty to know the records of the candidates.

"To some of them you will entrust your liberty and the protection of your property."

Again are the physicians of the country besought to take heed of the electoral situation.

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## YOU MAY NOT BE INTERESTED IN POLITICS, BUT POLITICS IS INTERESTED IN YOU

IN ITS MANAGEMENT OF PUBLIC BUSINESS IT GRIPS EVERY MAN'S CONTACT WITH SOCIETY AND WITH THE GOVERNMENT—PHYSICIANS CANNOT AFFORD TO QUIT POLITICS, FOR POLITICS WILL NOT QUIT THEM—THE QUALITY OF POLITICS DEPENDS UPON THE DEGREE OF PUBLIC INTEREST IN IT

Party politics must go under the hammer for the nonce if physicians of Illinois are going to make count their influence for requisite legislation through the results of the next election.

There is no time to waste, Primaries are hanging over our heads. April 10 is a day of destiny. The voice of the candidate is heard in the land, and the voice of the physician must be



raised immediately to discover just what these candidates intend to do about matters affecting the medical profession and its dependent, the public health and welfare.

Ballots talk. More effective than any other oratory is the count at the polls. Let the physicians of Illinois show that this gift of electoral eloquence is not denied them by making themselves heard at *the time that the candidates are selected for nomination*. This preliminary right of selection will cut down the work later on.

The times demand that patriotism supersede partisanship. What a candidate for any office is going to do about the insidious red propaganda springing up stout as purslane all over the land, each and every doctor should discover without any delay.

Even the physician can't accomplish this miracle.

Doctors who think that they can dodge the perhaps tedious, but admittedly necessary task of becoming interested to the point of personal exertion in the government of the United States are mistaken. The rule holds that a man must govern his horse or be governed. Apathetic physicians who are willing to submit to the despotism of money-grabbing, wire-pulling politicians may find food for thought and spur to action on April 10 in this able editorial, appearing recently in the oldest newspaper in the State of Illinois—"THE CHICAGO JOURNAL."

This reads, under the heading "Politics"—

"There is no escaping politics. It has a bearing on almost every human interest. Frank Kent, one of the ablest of correspondents in Washington, where he represents the *Baltimore Sun*, has been writing for the publication called *The Nation's Business*, and saying that in a greater or less degree every adult American is a politician perforce. He may not be "interested in politics," but politics is interested in him. In its management of public business it grips every man's contact with society and with the government.

"It is impossible, Kent shows, to be born or to die, to marry or to be divorced, without politics having to do with the matter. Every tax you pay, the smooth streets and the good roads, the public schools, the fire department, the health department, the water you drink, asylums, courts, custom houses, jails and penitentiaries, the

police, the post office, every law and ordinance—all spring from government, government springs from parties, and parties are in politics.

"The people can not afford to quit politics, for politics will not quit them. The quality of the politics depends upon the degree of the public's interest in it."

What better, plainer plea can be made the physician and at this crucial moment

Remember the primaries on April Tenth.

#### AN APPEAL TO PROSPECTIVE MEMBERS OF THE LEGISLATURE

Prospective members of the legislature should be informed on the following general principles, of interest equally to the medical profession and the general public.

We have too many laws, and too large a tax levy.

Living expense and taxes will be lowered as soon as hundreds of over-priced, interfering, recently adopted and unnecessary laws are done away with. America is mortally ill from a plague of laws. This evil is maintained at an annual cost per capita of \$91, and of about \$350 per family. One out of every twelve people in the United States who are over sixteen years of age, and who are gainfully employed, is on the public payroll. In the last few years this ratio has arisen from one out of every 1,000.

There are 15,000,000 employees on the public payroll according to the estimates of census statisticians. *This places an office-holder or "tax-consumer" on the backs of every two tax-producers.* Exclusive of pensioners there are almost three million public servants whose pay comes from the ever increasing taxes. A large proportion of this number is engaged in the administration and execution of superfluous statutes.

A similar situation crushed France and produced the French revolution. It was the bane and damnation of Germany.

*"Americans are now compelled by law to do, and prohibited by law from doing, more things than were the citizens of autocratic Europe before the war."*

We are the victims of a paternalistic regime that will eventually enslave and bankrupt the country. The *cost of government* has become unbearable. Too many functions of local and of state governments are being controlled by

hidden bureaus in Washington. *There is more power exercised today in these bureaus by unknown "experts," political appointees of whispering propaganda, than by the courts themselves.*

Centralization of government, bureaucracy, state subsidies and autocratic control are a poignant menace, and a fatal growth.

Bureaucracy is a curse wherever inaugurated. In the management of medical affairs it is fatal. Germany stood at the pinnacle of medical achievement thirty years ago. Under bureaucratically administered state medicine, Germany has come to have the worst medical service in the world and the poorest care for the health of the people. It will be ruinous to the health and welfare of the United States if this system is adopted in this country.

Before the coming legislature there will be presented many bills, attempting to regulate incompetently the practice of medicine and need-

lessly to increase taxation. Many of these bills will provide for the licensing to practice medicine, of uneducated and improperly equipped men and women.

We ask no especial favors for doctors, but we believe in a single standard of education and a thorough professional training before a man or woman can be licensed to practice the healing art or to diagnose disease.

Persons who seek a license to treat human ailment in the State of Illinois should know how to make a diagnosis of disease which is essential for the conservation of the public health.

There should be no side door short cuts to the practice of the treatment of disease in this State.

Ask your prospective representative what will be his attitude towards medical legislation designed to increase taxes and to medical legislation intended to safeguard your health and that of your neighbors and fellow-citizens.

## AMERICAN PUBLIC HEALTH ASSOCIATION

An interesting feature of the 57th annual convention of the American Public Health Association convention, to be held in Chicago at the Stevens Hotel, October 15 to 19, inclusive, will be an exhibit of five "traveling health departments," or railroad cars equipped so that they can be rushed to the scene of disaster or epidemic, or so that they can carry health service from a central point to isolated districts. These will be stationed on the Illinois Central terminal tracks. Automobile health equipment will be on view in Grant Park, and 200 exhibits of the most modern health apparatus will be displayed in the Stevens exhibi-

## AN INVITATION TO MEMBERS OF THE ILLINOIS MEDICAL SOCIETY

The American Public Health Association has the honor to extend an invitation to the members and friends of the ILLINOIS STATE MEDICAL SOCIETY to visit the HEALTH EXHIBIT and attendant demonstrations, which are to be presented in connection with the 57th Annual Meeting of the American Public Health Association, Chicago, Hotel Stevens, October 15 to 19, 1928.

Complimentary admission will be extended to those presenting the personal card of the physician, on which the physician has inscribed a brief request that admission be granted.

In addition to the Exhibit presented by the Educational Committee of the Illinois Medical Society there will be numerous other features of special interest to the profession and the visiting public.

tion hall. This year's convention will be the largest in the annals of public health history. Over 3,000 delegates will attend, including doctors, public health nurses, city and state health officers, hygienists, educators, hospital officials, sanitary engineers, and social workers. The convention has been divided into eleven main sections, covering all the chief health activities and their allied interests. Each section will be directed by an authority in that particular field. The American Child Health Association and the American Social Hygiene Association are to meet with

the American Public Health Association this year.



## NOTICE

Dr. Roland L. Green, Peoria, Chairman of Committee on Arrangements for the Seventy-Ninth Annual Meeting of the State Medical Society, at Peoria, May 21-23, announces that he will be pleased to supply the requirements of the Sections, through the proper committees, upon notice.

### MEDICAL ADVERTISING SOLICITOR WANTED

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185 N. Wabash Avenue, Chicago, Ill.

## BEG YOUR PARDON

For the virile, apt and poignant quotations from the "Woman Patriot" in the article "Women Flay Feminist Bloc and Children's Bureau Women Aroused to Fight Anti-Home Legislation Directly Affecting Themselves and Their Children."

In the issue of August, 1928, ILLINOIS MEDICAL JOURNAL such indebtedness is owned through the furtherance of these statements in clearing away the mists with which much of the current bureaucratic trend is regarded that it seems difficult to find any words sufficiently comprehensive to make apology for that compositor's error by which credit for these quotations was omitted at the time the article was published. As the publishers, editors and staff of "The Woman Patriot" are themselves in this business the ease with which such error is made and the difficulty with which it is remedied are matters of such mutual knowledge that it would seem plausible that after all this statement may be the error's "own best excuse" even if the error itself were not.

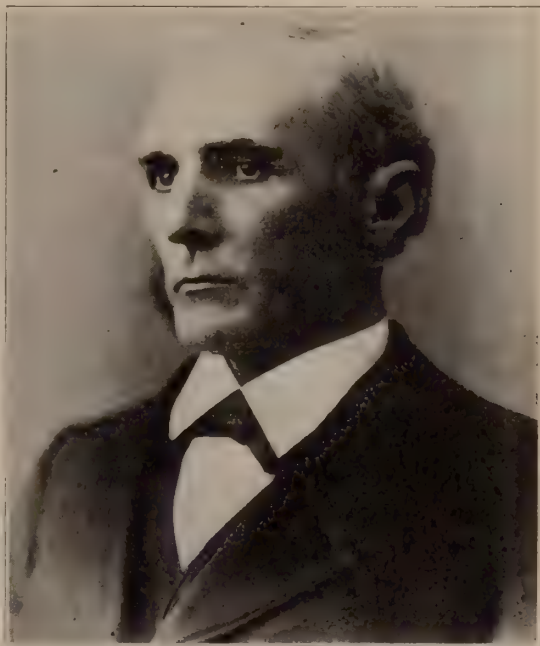
## HODGEN-MUDD

PIKE COUNTY (ILLINOIS) MEDICAL SOCIETY TO  
HONOR THEIR MEMORY

On Tuesday, October 30, 1928, the Pike County (Illinois) Medical Society will unveil a granite marker in the Public Square of Pittsfield to the memory of John Thomson Hodgen and

Henry Hodgen Mudd. These outstanding surgeons of the past generation spent their boyhood in Pittsfield and the physicians of Pike County will honor them in a permanent way. A few years ago Pike County unveiled a marker to two other of its many illustrious boys—John G. Nicolay and John Hay, both later secretaries of Abraham Lincoln and both achieving signal honors in literature, history and diplomacy. Their "Life of Abraham Lincoln" is the most comprehensive ever written and the "Pike County Ballads" are universally known.

The two to be honored in the coming event



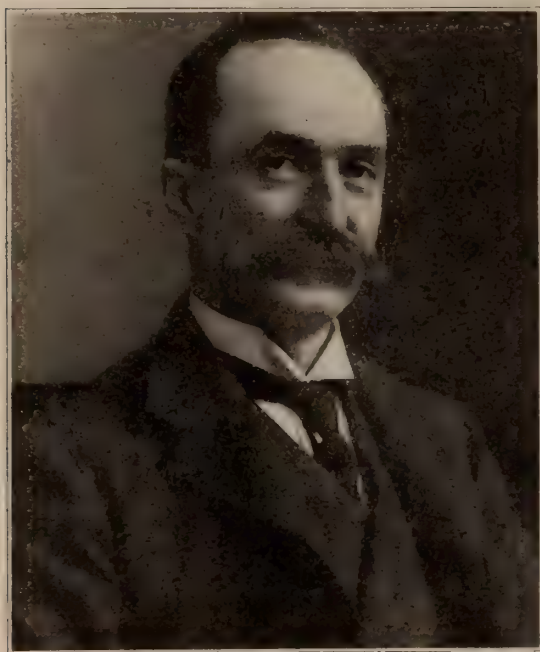
DR. JOHN THOMSON HODGEN

have achieved quite as much in their chosen field of surgery. All physicians and their friends are urged to attend this unique celebration. There will be a luncheon at noon after which a number of prominent surgeons and physicians will speak of the achievements of these two honored members of the medical profession. All will not only be welcome but are urged to join the members of the Pike County Medical Society in making this a notable occasion in Illinois medicine.

Pittsfield can be reached from either the East or the West by hard-road and the luncheon and principal speaking will be in-doors so that weather conditions should not keep one at home.

John T. Hodgen was born at Hodgenville, Ky.,

in 1826. His father, Jacob Hodgen, moved to Illinois and young Hodgen spent his school-boy years in Pittsfield. He took his collegiate degree at Bethany College, West Virginia, and in his twentieth year entered the Medical Department of the University of Missouri, from which he graduated in 1848. From that time until his death in 1882 he was identified with one or more of the medical institutions of St. Louis. He began as interne at the St. Louis City Hospital and served later as demonstrator of Anatomy, Professor of Anatomy, Physiology, Surgical Anatomy, Clinical Anatomy, Clinical Surgery and Surgery



DR. HENRY HODGEN MUDD

and as Dean of the Faculty. He was a teacher all his life, although an active and popular practitioner of surgery whose services were widely in demand as a consultant as well as an operator. But his activities did not end here. America has produced few surgeons of greater versatility of mind and hand than John T. Hodgen.

Henry Hodgen Mudd was born at Pittsfield, Ill., in 1844. He was a nephew, assistant colleague and successor to John T. Hodgen, in the fields of medical teaching and practice in St. Louis. He gave brilliant service during the Civil War as assistant Surgeon General. After the war he entered practice with his uncle in St.

Louis and succeeded to the Professorship of Anatomy, surgical anatomy, clinical surgery, and surgery and was Dean of the Faculty.

Both contributed largely to medical literature and took an active part in medical societies, local, state, national and international.

The Pike County Medical Society will honor itself by preserving the names of these two illustrious physicians and invite their friends and neighbors to join them in a noted occasion.

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**VOLUNTARY AND PUBLIC HEALTH  
AGENCIES SHOULD CONSULT THE  
MEDICAL PROFESSION BEFORE  
RATHER THAN AFTER LAUNCH-  
ING THEIR ENTERPRISES**

An outstanding mistake that public health organizations, especially voluntary or private health agencies, have made in the past, and which in large part has led to gross misunderstandings between these agencies and the medical profession, lies in not taking the medical profession, through its constituted society, into their confidence from the inception of public health programs and together working out such programs and plans of procedure as appear to be advisable. An excellent example of this is shown in the difficulties recently experienced in the health organizations of the City of Knoxville, Tenn.

Prior to the recent adjustment of public health and clinical activities in the City of Knoxville, there existed conditions involving a degree of conflict between the voluntary health agencies, the public health authorities and the medical profession such as are more or less common to many American municipalities.

As in most instances, the Knoxville situation was developed from a total disregard by the voluntary health agencies, and to a lesser extent by the official health body, of the interests of the medical profession in the formulation of plans for public clinics. Here, as is quite commonly the practice, programs for clinical procedures were set up by a lay group according to its own conceptions of service, without proper knowledge or regard for the needs of such services and without the guidance or advice of the medical profession through the agency of its local so-



ciety. The medical profession was consulted only after all other plans for service had been made ready and when medical skill became essential to further functioning. Then the doctors were asked to contribute their professional services for the care of clinic patrons but the doctors were not accorded the right to determine clinic policies, especially those relating to the determination of a patient's eligibility for free service. The patient's financial status and right to free service was determined by the lay officials who were actuated largely by a desire to make an attendance record for the clinic. The service was operated on this basis for some months.

As a result of these mistaken policies, the clinic became a source of contention and eventually was forced to close through withdrawal of all medical forces from the staff.

For the adjustment of the matter the American Public Health Association, then as now, engaged in the study of local health and clinic operations with a view to their placement on a well-approved and harmonious basis of operation, was invited to survey the situation and present a plan for future operation. The assignment was given to Dr. C. St. Clair Drake of Illinois, attaché of the American Public Health Association in this field of special service.

Outcome of studies made were:

(a) The transfer of all clinics, excepting tuberculosis and other clinic services of a strictly public health character, to the city hospital under the direction of the medical staff;

(b) The organization of a medical advisory board of five members, two nominated by the medical society, to assist the local health officer in an advisory capacity;

(c) The erection of a Citizens' Health Council to serve as an agency to harmonize the activities of all voluntary and official health activities with those of the medical profession; and

(d) The housing of all public health agencies, official and voluntary, in a "health center" under the coordinating direction of the city health officer who, as previously stated, acts in harmony with the decisions of his advisory boards, medical and lay. Here also are maintained such clinic activities as are mutually

agreed to as essential to proper public health functioning.

To date, this plan of organization appears to be operating satisfactorily. It affords that contact between the public health group and the medical profession that is indispensable to a proper mutual appreciation of each other's services and to a conduct of activities in such manner as leads to harmonious action and a larger measure of real service to the public.

Dr. L. L. Shedd on of Knoxville tells aptly the story of the "fight:"

The story of the controversy between the Knox County Medical Society and the Knoxville Health Center is lengthy. It would be impossible for one to give a clear and concise account without consuming too much time and space.

Suffice it to say that the Knoxville Health Center was strictly a lay organization. It was finally absorbed by and placed under the jurisdiction of the Red Cross. This organization succeeded in getting aid and assistance from the City and State Health Authorities. A Venereal Disease Clinic aided by a special State-aid appropriation made by the Federal Government was added. However, the whole management and policies were dictated by the Red Cross. The clinic became as its name indicated a "Free Clinic."

The organization was idealistic in its proposed intentions. As is the case in most Socialistic movements it is absolutely impracticable. As is the case in all clinics the medical profession of the city was called upon to act as staff which they readily agreed to do. It soon developed that members of the staff were merely puppets at the beck and call of the Red Cross and of other lay organizations. Staff members were given to understand that their only function was to treat any and all patients coming under their hands and any attempt to correct abuses were promptly checked.

Patients were coming to the clinic from all over this section of the state, a number of whom were amply able to pay for services but who had been told that if they would come to Knoxville to the Free Clinic they could get treatment free.

This was especially true of the E. E. N. and T. and Venereal Disease clinics. The Health Center openly stated that they would treat all such cases free of charge. The clinic employed two or three all-time and part-time physicians especially in the Venereal Disease Clinic. When any protest came from the profession they were unceremoniously informed that if the members of the Medical Society refused to act and continue to be bossed and dominated by this lay organization that all-time physicians would be hired in replacement.

This clinic was one of the chief beneficiaries of the

"Community Chest," and was also getting an appropriation from the City and State.

The Knox County Medical Society determined to let the public know how the clinic was being financed and conducted, and the privileges of the abused, and how unnecessary was the organization.

The fact was set forth that Knoxville had its municipal Hospital and outdoor clinic where all indigent applicants could get treatment; that the taxpayers were paying for such treatment and that contributions to the Community Chest were being used to finance a clinic for the treatment of those who were not entitled to free treatment not only in Knoxville but from hundreds of miles of surrounding territory. This known to the public when it came time to solicit funds for the cause backers found it impossible to do so.

Doctors took the matter up in the Medical Society and requested all members of the Society to withdraw from the Staff until such time as the Clinic could be placed in a position where the medical profession could have absolute control. No threats were made but the sentiment of the Society was so unanimously expressed against the abuses practiced and the contempt shown its members that every member of the Staff of the Clinic resigned and it was forced to close for lack of a Staff. They did not have the funds to employ all-time men.

The medical profession of Knoxville stood together and effectually put this very obnoxious and incompetent institution out of business.

Dr. L. L. Sheddon and Dr. E. R. Zemp of Knoxville have written for the ILLINOIS MEDICAL JOURNAL the following apt and interesting account of the controversy

Writes Dr. Sheddon:

Similar evils can be corrected anywhere by letting taxpayers and charity contributors know what is going on. *No clinic can be conducted without Doctors* and if the members of the profession can be brought together in this organized capacity they—the profession—can absolutely dictate most capably the policies of hospitals and clinics.

The Knoxville Clinic was closed for several months. As a part of the City Health Department was housed in the building and recognition was given to need for a certain kind of clinic, the health authorities secured the assistance of Doctor C. St. Clair Drake, an experienced public health man, now attached to the American Public Health Association. Now the Clinic is operating under the plan submitted by Doctor Drake and adopted by the Medical Society of Knoxville. This Clinic is entirely a Diagnostic Clinic. T. B. suspects and mental defectives are sent there for observation, also some Venereal Disease suspects.

No treatment of any kind is carried out there. Such individuals are sent to the City Hospital and Clinic.

The management has been taken entirely out of the hands of lay organizations and is now absolutely

controlled by members of the Knox County Medical Society, to the great benefit both of increased public health and decreased public expense.

In addition to other citations Dr. Zemp has kindly loaned some of the interesting correspondence in this regard.

Knoxville, Tenn., March 28, 1928.

Dear Doctor Whalen:

As requested in your letter of March 17 I am collecting the data pertaining to our fight with the Red Cross in Knoxville.

Up to 1926 the clinic situation in Knoxville was unbearable. It was dominated almost entirely by laymen, chiefly of the female persuasion. These leaders became very insolent, even dictating to the various members of the medical staff what physicians could, or could not do. Our Medical Society determined to end this misrule of ignorance and bigotry. We went after them hammer and tongs, forced all the medical staff to resign and left the Clinic helpless. The condition is still unsatisfactory, but much better than it was. The details will follow in a subsequent letter. I am sending you a letter from Dr. Jesse C. Hill, secretary of Knox County Medical Society, that is self explanatory.

Sincerely yours,

E. R. Zemp, M.D.

KNOX COUNTY MEDICAL SOCIETY

March 28, 1928.

Dr. E. R. Zemp,

Knoxville, Tenn.

Dear Dr. Zemp:

The following is a part of the minutes of the Knox County Medical Society:

"The Knox County Medical Society passed the following resolution January 12, 1926: 'Whereas the Physicians composing the Staff of the Knoxville Health Center, as members of this Society, have asked the Knox County Medical Society for some action, or expression, in regard to the rules and regulations which will be necessary to bring the Health Center to a place where they can consistently and conscientiously function as such staff and still keep in harmony, good standing, and fellowship with this organization, and

"WHEREAS, these gentlemen are our brother physicians, whom we honor and respect, as members of this Society are entitled to know just what the sentiments of this organization are toward said Health Center as at present conducted, and

"WHEREAS, the Board of Directors of the Knoxville Health Center has expressed a desire to know what has brought about such complaints and criticisms, is entitled to know exactly how this Society feels toward said Health Center, and

"WHEREAS: it is plainly the duty of all municipalities to make provisions for the treatment of its un-



fortunate and indigent population, and the duty of the State, County and municipality to engage in such public health activities as may be necessary to conserve and protect the health of the general public! To provide means of carrying out such public health activities as protection to food and water supplies, exercising vaccination and quarantine regulations against epidemic diseases: to enact laws and make provisions for such purposes as will enable health officers to put such measures into operation, and to enforce compliance therewith, and

"WHEREAS, the City of Knoxville, through its legally constituted authorities, has made such provisions for the care of its indigent sick, both medical and surgical, at the Knoxville General Hospital with its Out-Patient department, for the maintenance of which the citizens of Knoxville are taxed a sufficient amount to amply accomplish these objectives and the City of Knoxville and County of Knox have organizations in their municipal and County Boards of Health to exercise all such public health supervision as is necessary to protect the lives and health of the citizenship of this community, and

"WHEREAS, the Red Cross as an organization, has no place in public health work, no such activities having ever been contemplated by the founders of this organization, and, prior to the World War, no such functions were performed by the Red Cross. It was, and is a great institution, international in scope, organized for the purpose of meeting great emergencies, such as wars, earthquakes, fires, storms, and pestilence where large numbers of people are afflicted or rendered homeless, and to divert the funds of the Red Cross to public health work in an improper use of such funds, and is exercising a function which is clearly the duty of the State, County and municipality, and

"WHEREAS, the American Medical Association, through its House of Delegates, which is the law-making and executing body of that Association, has gone on record at different times against, and strongly and unanimously condemned the Red Cross organization for its pernicious meddling with and usurping of the powers of the public health service, a function for which it was not created, and

"WHEREAS, the U. S. state and county Public Health Departments were all organized for specific purposes, such purposes being educational and advisory. Educational by instructing individuals as to personal and general measures which should be adopted to protect themselves against disease. Instructing state, county, and municipal authorities about such things as the drainage of swamps in malarious and yellow fever localities; how to protect water and food supplies and general sanitation; to devise quarantine and other protective measures to insure the health of the general public. It having never been contemplated that they should attempt to supply treatment to individuals for any form of ailment whatsoever, and

"WHEREAS, as we understand the status of affairs, the venereal disease department of the Health Center is supposed to come under the head of public health activity, and

"WHEREAS, the idea of controlling venereal disease through venereal disease clinics may be ideal in sentiment, as is true in many other socialistic movements, they often become so idealistic that they become impractical and operate in a diametrically opposite direction to the object to be attained, and

"WHEREAS, it is apparent to any thinking individual that many subjects of venereal disease are victims of their own lusts and dissipations, and that any individual who is able to work and is possessed of all his faculties, who presents himself soliciting free venereal disease treatment is, as shown by such action, a vagrant and should be treated as such, and

WHEREAS, all treatment of such characters is, from a public health standpoint, useless until such laws are enacted and rigidly enforced as will enable our health officers to declare them vagrants and to confine them and hold them until such time as they can be pronounced uninfected by a competent health officer. Free treatment of such individuals will not prove effective in protecting the public against such diseases, but will only act to encourage the dissemination of the same, and

"WHEREAS, it has come to the attention of various and sundry members of this Society, who are in a position to be competent judges, that a great many individuals, not only of Knoxville and Knox County, but many from adjoining counties are treated at the Health Center who are able to pay for their treatment, if not full fees, a reasonable amount, and

"WHEREAS, paternalism such as this can only tend to bring about a state of Socialism and is not helpful to the recipient of such beneficence, but is, in a measure, degrading and only encouraging them to depend more and more upon charity, causing them to make less effort upon their own part. Such beneficence where so freely bestowed we believe acts so harmfully as to outweigh all of the good which may be accomplished, and

"WHEREAS, the colored physicians of Knoxville have brought to the attention of the Knox County Medical Society that at least ninety percent of the colored population are considered eligible for, and entitled to, free medical services under the present ruling and scale of earnings, as set forth by the managers of the Health Center, thus depriving them of a greater portion of their legitimate practice, much to their financial distress, and to the moral and social detriment of the colored population, and

"WHEREAS, such free treatment of patients who are able to pay, either in part or in whole, may not affect some of the members of this Society, there are many more who have spent long years and gone to great expense to prepare themselves to treat such cases, and

who, prior to the establishment of the Health Center, were receiving thousands of dollars compensation from these individuals and doing them no injustice, on the other hand helping them to maintain their independence and self-respect, and

"WHEREAS, it has been stated upon the floor of this Society upon numerous occasions and by sundry members of this Society that they have, when attempting to learn something of the financial ability of certain applicants for treatment to pay for services rendered, been told that they had absolutely no right or business to ask such questions and have been unceremoniously notified to desist from such investigation, and

"WHEREAS, it is currently charged and generally believed that the nursing service from the Red Cross Society, the school nurses and public health nurses, which operate from the Health Center, are, in many instances, nothing more nor less than advance agents and solicitors for said Health Center, advising many people with whom they come in contact to go to the Health Center for various and sundry treatments much to the annoyance and detriment of the medical profession, and

"WHEREAS, said Health Center has become, because of the way it has been and is being conducted, a constant source of annoyance, dissatisfaction, and detriment to this Society and bringing about a great deal of criticism upon the city authorities, especially the public welfare department of the same, therefore, be it

"Resolved, by the Knox County Medical Society in regular session assembled,

"First, that we do most heartily disapprove of and severely condemn the Knoxville Health Center as it has been and is being conducted;

"Second, that we advise and most earnestly and respectfully request all members of this Society to cease their activities at the said Health Center until such time as it can be placed in such position as to remedy the evils complained of, and until more latitude, freedom, and consideration can be granted to members of the medical profession of Knoxville; and Be it further

"Resolved, that in view of the fact that the City of Knoxville has made ample provision for the care and treatment of its indigent sick through the agencies of the City Physician and its General Hospital with its Out-Patient department, for the maintenance of which the citizens of the City are taxed, and which are administered to and attended by physicians of Knoxville freely and willingly, and that for the Red Cross Association to engage in Public Health activities has been unanimously and severely condemned by the House of Delegates of the American Medical Association more times than one; that the Public Health activities can be much more effectively and satisfactorily carried out through the City Board of Health, and that there is no legitimate excuse for the existence of such an institution as the Health Center of Knoxville; Be it further

"Resolved, that the Knox County Medical Society does advise and recommend to the director of Public Welfare of the City of Knoxville that he with-

draw all financial and moral support from said Health Center and Venereal Clinic and to concentrate such activities in and around the Knoxville General Hospital and the Board of Health; and Be it further

"Resolved, that in view of the fact that as not only useless but hurtful effects are being brought about and people pauperized that should and could be self-sustaining, thus further adding to their misfortunes and degradation, and that such so-called charity and uplift activities only tend to encourage Socialism, Communism, and Bolshevism, that we advise and request the directors and managers of the Community Chest in the future to eliminate the Knoxville Health Center as one of their beneficiaries and to concentrate their efforts toward the true and legitimate charities of this community."

"The Society sent the following letter to Dr. V. D. Holloway, January 13, 1926: 'Dear Doctor Holloway: The Knox County Medical Society in regular session January 12, 1926 voted that the Society respectively requests your Medical Staff withdraw their services from the Knoxville Health Center and Venereal Disease Clinic. Very truly yours, DR. JESSE C. HILL, Secretary Knox County Medical Society.'"

"The Society sent the following letter to Hon. Frank Bane, Director of Public Welfare, Knoxville, Tennessee, January 16, 1926: 'The Knox County Medical Society at its regular weekly meeting, Tuesday, January 12, 1926, respectively requested the Doctors doing service at the Knoxville Health Center and Venereal Disease Clinic to withdraw their services from same.

"The Secretary of said Society was instructed to write Hon. Frank Bane, Director of Public Welfare, and respectively request that the City of Knoxville withdraw its moral and financial support from the Knoxville Health Center and Venereal Disease Clinic. Very truly yours, JESSE C. HILL, M. D., Secretary Knox County Medical Society. P. S. Resolution in full in my possession. Will be glad for you to read same should you so desire."

"The Society sent the following letter to Directors of Community Chest, January 19, 1926: 'The Knox County Medical Society, at a regular meeting held January 12, 1926, passed the following resolution: Resolved that in view of the fact that as not only useless but hurtful facts are being brought about and people pauperized that should and could be self-sustaining, thus further adding to their misfortune and degradation, and that such so-called charity and uplift activities only tend to encourage Socialism, Communism, and Bolshevism, that we advise and request the Directors and Managers of the Community Chest in the future to eliminate the Knoxville Health Center as one of its beneficiaries and to concentrate their efforts toward the true and legitimate charities of this community. Very truly yours, DR. JESSE C. HILL, Secretary Knox County Medical Society.'"

"On August 13, 1926, Dr. Drake, of the American Health Society, presented to the Knox County Medical Society a plan on which he proposed the Health Center should be run as a diagnostic clinic for conditions pertaining to Public Health and no treatment was to



be administered. The Knox County Medical Society approved the plan, and same was instituted a short time thereafter.

"Yours very truly,  
"JESSE C. HILL, M. D.  
"Secretary Knox Co. Med. Society."

### Correspondence

#### IS THE NATIONAL TUBERCULOSIS ASSOCIATION GOING BEYOND ITS PROPER ACTIVITIES?

Chicago, May 25, 1928.

*To the Editor:*

While believing that as at the present time officered, the Illinois Tuberculosis and Public Health Association is quite safe in scope of activity it would seem that the association is a menace to the public as well as to medicine. There are many physicians in this state who feel that this organization is not only above reproach but is a very commendable group, still there are some questions one may well ask.

1. Why did the National Tuberculosis Association advocate the change in name of the State organizations to Tuberculosis and Public Health Associations? This has not only been done in Illinois but in other states and it is not only resented in Illinois but elsewhere.

2. The activities of the National Tuberculosis Association and other state groups are supported by the sale of Christmas seals which are sold ostensibly to combat tuberculosis. Is it not a breach of faith to sell these seals for one thing and divert the funds received to other activities?

3. The Chicago Tuberculosis Institute which is the Chicago organization receiving the money from the sale of seals in Cook County is affiliated *directly* with the National Tuberculosis Association and not through the medium of the Illinois Tuberculosis and Public Health Association. It is generally conceded that the Chicago Tuberculosis Institute has gone beyond its proper limit of activities. If this be true, why should not such action allow other organizations affiliated with the National Tuberculosis Association go beyond their proper activities through such precedent? Has the National Tuberculosis Association any well defined policies for affiliated bodies? Has it any disciplinary powers on other affiliated bodies?

4. Is it not a paradox that many physicians in the Chicago Medical Society refuse to buy Christmas seals because these doctors feel that the funds are not fairly administered, while we find physicians in other parts of the State enthusiastically advocating this sale? Is this because of poor coordination in the work of the bodies affiliated with the National Tuberculosis Association or is it a lack of understanding on the parts of the physicians?

G. HENRY MUNDT, M. D.

#### THE MEDICAL PROFESSION SHOULD TURN ITS ATTENTION TO VOLUNTEER HEALTH AGENCIES, AS THESE ARE ATTEMPTING TO DOMINATE THE HEALTH PROBLEM IN THE UNITED STATES

NATIONAL TUBERCULOSIS ASSOCIATION TRYING TO BRING ABOUT STATE MEDICINE

Montgomery, Ala., May 10, 1928.

*To the Editor:*

I am deeply interested in getting well organized state boards of health functioning properly under the dominance of the medical profession in every state West of New York. The East, I am afraid, is hopeless. The East is satisfied with *itself* and the things it *thinks* it knows.

I am sorry you were not at the American Medical Association meeting on March 30 last. Dr. West called it "a talk fest" in the discussion of my paper a few days ago, but it was quite illuminating to me. I got a good deal out of the views expressed by the representatives of the volunteer agencies with headquarters in New York City. I wish the medical profession could turn its attention to these volunteer agencies, which are undertaking to dominate health problems in the United States, and also through the National Tuberculosis Association, bring about state medicine.

Public health work means to me the protection of the group from communicable diseases and the cleansing of the blood stream. A public health officer means to me a doctor thoroughly trained in the science of medicine with scrupulous regard for the ethics and traditions of the profession. In other words, public health is a medical specialty and cannot succeed on any other basis. I think if the profession could wake

up to the tremendous possibilities which would grow out of dominance of the public health field by the medical profession and recognition by it of the fact that it is the coming specialty of medicine, the opportunities for service to the race would be limitless. Had it ever occurred to you that through such an organization, led and dominated by the medical group of each state, what possibilities would grow out of locating in the public schools the potential criminals, the potential paranoiacs, the dementia precox, and maniac depressant cases before they were twelve years old?

I feel as if I were simply blazing a trail in Alabama, acquiring leadership by the medical profession in this field by the control of communicable diseases. This is simply a stepping stone. The work of the future health officer will be to locate potential mental and moral degenerates among the public school children, and work out such means for their control as will lift the present burden of caring for these people off the shoulders of society. This can only be done by the medical group. We have been too slow to come into our own, too slow to recognize the tremendous opportunities for service which lie in the development of this field. There can be no state medicine when the medical group in each state dominates the health work of the state.

SAMUEL WALLACE WELCH, M. D.,  
State Health Officer.

#### WHAT IF NOBODY CARED?—ILLINOIS AN OUTSTANDING STATE REGARD- ING THE NECESSARY EDUCA- TIONAL SAFEGUARDS

In the last session of the Legislature a measure was introduced under the caption of House Bill 411 which provided ways and means for extending the privileges of the University of Illinois to Homeopathy, Sanatology, Osteopathy, Chiropractic, Naprapathy, and Naturopathy schools for teaching and demonstrating their methods in the art of healing, promotion of health and prevention of disease.

It is needless to say that the Illinois State Medical Society opposed and defeated this measure despite the fact that a large group of drugless healers was clamoring for such a law. This was only one of approximately fifty measures

that were introduced in that session, each of which was inimical to the public health.

At no time in the history of the Illinois State Medical Society has it fought a drugless healer per se, but the political program of the Society is merely one of protection for the public.

Of course, while it would seem that the fight is directed toward the drugless healer, it is only the laws that such pretender attempts to pass—which would legalize and lower the present requirements—that are of interest to the physicians, and if NOBODY CARED, or if physicians were not willing to accept the responsibility for guiding the legislative thought regarding public health matters, bills of the above type would be passed without difficulty.

In the last session of the Legislature another rather innocent-looking bill was passed which recognized correspondence schools, allowing such organizations to be recognized by the Department of Registration and Education, which Department upon recognition would furnish a statement approving such school, thus allowing the proposed school to use that statement in advertising propaganda. That bill is a law today, and if NOBODY CARED the statement in the preamble of the bill excluding courses in medicine, dentistry, and pharmacy would never have appeared.

Illinois finds itself today as an outstanding state regarding the necessary educational safeguards for those who desire to treat the sick, and this is true mainly because the Illinois State Medical Society has assumed their duty of properly keeping in close contact with the legislative situation.

Some years ago the banking fraternity showed the fallacy of privately owned banks in the State of Illinois, due to the great losses sustained by depositors. These banks have been abolished. In the last session of the Legislature there was a radical change in the insurance law regarding what is known as County Mutual Associations, which were literally robbing policyholders, and inasmuch as these associations were incorporated and reportable to the Secretary of State's Department the Insurance Superintendent of the State of Illinois was helpless.

Insurance companies banded together and showed the Legislature the fallacy of the law and it was altered so that all such associations



must report to, and be examined by, the State Insurance Department. All this was done for the benefit of the people. Surely no one could accuse the banker in the first instance, or the insurance companies in the second instance, of any selfish desire in having these vicious laws corrected. Much better, however, would have been a careful supervision of all bills introduced, thus probably preventing such measures from becoming laws. Instead, a great deal of damage was done before correction was undertaken.

This is why the Legislative Committee of your Society is asking the individual help of all members in preventing these mistakes by our law-making body.

Two years ago a law radically curtailing the police power of City Health Departments was allowed to be "kissed" through the Legislature by a group of earnest but misdirected women. It took a long executive session in the governor's office to obtain the necessary veto to prevent the silly measure from becoming a law.

The Illinois State Medical Society stood adamant against the Sheppard-Towner law in 1921. A great many unkind invectives were hurled at Dr. Whalen, the Editor of our State Journal, and Dr. Krafft and his committee who came to Springfield and worked ceaselessly for the defeat of that measure. At the time the Bill was pending, and a very large lobby was holding their sessions, the able address of Dr. W. D. Chapman, the Chairman of the present Council, was listened to most attentively by the Legislative Committee.

Illinois, in holding out and in being the only large state which has denied the necessity for such a paternalistic measure, has been quoted by even the proponents of the Bill as being one of the outstanding reasons that Congress decided to abolish the law. The physicians knew what they were recommending to the Legislature, maintaining that they were capable of outlining for the State of Illinois a better plan to save mothers and babies, and in the daily press of yesterday we notice from the report of Dr. I. D. Rawlings, the State Health Superintendent, that Illinois had the lowest infant mortality rate, that of 64.4 per 1000, in her history, and one that compares very favorably with that of the nation at large as well as with other states.

Dr. Rawlings says, "Without doubt the im-

proved economic conditions are a factor but it is secondary in that it makes possible the wide utilization of medical and sanitary knowledge." This is rather conclusive evidence that Illinois does not need supervision from Washington regarding the health of its people or the conservation of mothers and babies, and yet there is hovering on the horizon in Washington a more atrocious bill along these lines, which undoubtedly will be brought before the Illinois Legislature in 1929.

Earnestly it is asked that physicians individually see the candidates who are seeking election in November, ascertain their views upon matters of this sort, correct the evil influences that drugless healers' friends are pouring into candidates each week, and try to convince candidates that the medical men have always stood for sane and sound laws for the protection of the citizens of Illinois.

Above all, see, doctor, that your vote is cast in November, and also see that those members of your family who are eligible to vote exercise citizenship rights.

Yours very truly,

J. R. NEAL, M. D.,  
Chairman Legislative Committee.

#### HOW TO KILL A MEDICAL SOCIETY

Don't come to the meetings. If you do come, come late. If the weather doesn't suit you, don't think of coming. If you do attend a meeting, find fault with the work of the officers and other members. Never accept office, as it is easier to criticize than to do things. Nevertheless, get sore if you are not appointed to a committee; but if you are, do not attend the committee meetings.

If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say. After the meeting, tell everyone how things ought to be done. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the organization is being run by a clique. Hold back your dues as long as possible, or don't pay them at all. Don't bother about getting new members.—*The Aesculapian*.

#### DUE NOTICE

The farm problem, as reported by a western Texas paper:

"Positively no more baptizing in my pasture. Twice in the last week my gates have been left open by Christian people, and I can't afford to chase cattle over three counties just to save a few sinners."

### VALUE OF PRENATAL CARE

The analysis made by Tracy and First of 1,001 cases showed that careful prenatal care as carried out in all well regulated clinics saves many patients later complications and reduces maternal and fetal mortality. Watchful waiting and allowing nature its full opportunity will diminish the incidence of forceps deliveries and extensive lacerations. The majority of cases of placenta praevia can be successfully treated conservatively. Only a very small percentage of cases require cesarean section. Contracted pelvis are only relative, and much depends on the size and position of the child. Unless there is a decided disproportion, the patient should be given a real test of labor before a cesarean section is elected. Pregnant women with cardiac diseases should be treated by prolonged rest in bed, proper medication and analgesic remedies during the first stage of labor and then be delivered with forceps under light anesthesia. Elimination of the abdominal binder after twelve hours, position and exercises will materially reduce the number of retrodisplacements of the uterus. The postpuerperal supervision and care of the patient is most beneficial and should receive more earnest and efficient attention.—*Amer. J. Obst. & Gyn.*, July, 1928.

### ENDEMIC GOITER AND IODINE

Briefly, we have never seen an authentic case of hyperthyroidism in children that could by any stretch of the imagination be attributed to the prophylaxis of goiter through the schools. This point seems agreed upon by all. However, the old argument about longstanding goiters in adults put forth by Rilliet in 1858 seems to live on. . . . Every survey or study only emphasizes the importance of prevention during pregnancy. The relation of these congenital defects to the adenomatous or tumorous conditions of later life is more and more appreciated with each careful study. We all know the disappointments in our attempts to control or treat these tumorous thyroids. Therefore, we cannot stress this point too strongly, and in endemic districts we need the assistance of all prospective mothers and of the physicians who educate and direct them through this important period. It is during pregnancy that the general use of iodized salt is of greatest value. For those under the supervision of their physicians or those who accept the responsibility themselves, one or two iodostarin tablets a week throughout pregnancy and lactation would be excellent.—Kimball, O. P.: *Endemic Goiter and Public Health*, *Am. J. Pub. Health*, May, 1928.

### RESULTS OF MALARIA TREATMENT OF GENERAL PARALYSIS

Of 100 cases of general paralysis treated with malaria by Levin, without subsequent antisyphilitic treatment, complete remissions resulted in twenty-six; in ten there were partial remissions; in fourteen there was improvement; in twenty-one there was no improvement, and twenty-nine terminated fatally. A total of

50 per cent. were benefited by the treatment. The durations of the complete remissions to date extend from four months to thirty-one months. The grandiose or expansive type of general paralysis offers the best progress, 84 per cent. of the cases of this variety showing definite improvement subsequent to the malaria injections. The prognosis in the demented and the agitated types is much more dubious, the improvement rates being 45 per cent. and 33 per cent., respectively. The duration of the psychoses prior to treatment bears a distinct relationship to the improvement rate. The best results were obtained with the patients whose psychoses were of less than four months' duration. Sixty-eight per cent. of this group were benefited, as compared with 35 per cent. in whom the disease lasted a year or more. Males seem to respond to treatment better than do females. The total improvement rate of the males was 53 per cent., of the females 36 per cent. There is no distinct correlation between the clinical and the serologic observations subsequent to malaria treatment.—*New York State Journal of Medicine*, May 15, 1928.

### GROWTH OF CULTS LACK OF COMMON SENSE

It is not amiss to note that, during the period of greatest development of medical science, development not only in its content but also in its intent, there has been at the same time in this country the greatest development of favorable inclination toward weird hypotheses concerning the character of disease and methods of its treatment that the world has ever seen. That this is not due merely to the dissemination of new knowledge, to those strata of society which previously had never thought and which are now incapable of logical thought, is amply demonstrated by the growth of cults with a clientele made up in large measure of those members of society who have been by tradition and training accustomed to thinking. The aberration of their mental processes is not due to moronic heredity but perhaps in large measure to lack of contacts with enough individuals with sound common sense.—Wilson, L. B.: *Minnesota Med.* 11:365 (June), 1928.

### IT DIDN'T COST ANYTHING

A Hebrew storekeeper, much to the astonishment of his neighbors, suddenly decorated his shop window with a gorgeous new blind. It was the sensation of the day, and few of his brethren failed to make some remark to him about it.

"Nice blind you've got there, Isaac," said one.

"Yes, Aaron."

"How much did it cost you, Isaac?"

"It didn't cost me anything, Aaron. My customers paid for it."

"What! Your customers paid for it?"

"Yes, Aaron. I put a leedle box on my counter 'for the blind,' and they paid for it."—*Canadian Pharmaceutical Journal*.



## Original Articles

### CARCINOMA OF THE LARGE INTESTINE INCLUDING THE RECTUM\*

IRVIN ABELL, M. D.,

LOUISVILLE, KENTUCKY

A somewhat limited experience with carcinoma of the large intestine including the rectum is presented as a basis for the discussion of some of the problems connected therewith. The story, as is common with carcinoma elsewhere, is a dismal one and is offered as a plea for early recognition of the disease and its radical treatment. The technique of surgery of the colon and rectum, based upon anatomical, physiological and pathological knowledge, has reached a high stage of development. The operability of cancer in these organs has been thereby greatly increased at the expense of a higher operative mortality, but with the result of greater prolongation of life. It is improbable that much further technical improvement permitting a wider ablation of cancer bearing tissue will be evolved. If this assumption be true, then, in the light of our present knowledge, the hope for reduction of mortality from cancer of the colon and rectum must lie in its earlier diagnosis and a radical removal. The age at which its greatest incidence is observed and the relentless character of the disease with its consequent reduction of an already waning vitality combine to make the operative mortality a high one, while the number of patients remaining free from disease following operation is discouragingly small. Unfortunately this is the usual history of cancer in other locations with few exceptions, and yet there are certain features about cancer of the colon, notably its slow growth with tardiness of metastasis to readily removable gland groups, which should make the outlook more favorable with the opportunity for the radical treatment which an early diagnosis affords. The material upon which this paper is based comprises 77 cases, observed from 1915 up to and including 1927, the growth being in the colon in 53 and in the rectum in 24. Of this number 33, 25 in the colon and 8 in the rectum, were subjected to radical operation; in 23 some type of palliative opera-

tion, chiefly colostomy, or a short-circuiting enterocolostomy or colocolostomy was done, while in 21 the condition was such as to preclude any advantage from operative measures. The fact that but 42.9 per cent. came under observation at a time when radical measures could be instituted, 29.9 per cent. at a time when palliative measures only could be employed, and 27.2 per cent. when neither method of possible relief was available indicates a woeful disregard of symptoms on the part of the patient and a failure on the part of the doctor to appreciate their significance, meaning that 57.2 per cent. of the series were denied the chance of relief which surgery offers.

The average age of 73 patients was 51.1 years, one occurring in the second decade, a male, age 17 years, with colloid carcinoma of the cecum, one in the third, a female, age 28, with carcinoma of the rectum, nine in the fourth, twenty-two in the fifth, seventeen in the sixth, sixteen in the seventh, and seven in the eighth, with the age not stated in four.

The growth was situated in the cecum in 16, in the ascending colon in 8, in the hepatic flexure in 7, in the transverse colon in 5, in the cecum and transverse colon in 1, in the splenic flexure in 3, in the descending colon in 1, in the sigmoid colon in 12, in the rectum alone in 23, and in the rectum and breast in 1. It will be noted that two patients are recorded as having multiple foci, one with carcinoma of the cecum and transverse colon, and one with carcinoma of the breast and rectum: together they present a fertile field for speculation as to whether or not they represent primary multiple foci. The conception that cancer is primarily local in origin, the secondary tumors developing as the result of metastatic transplantation, is so definitely fixed that one accepts the idea of multiple primary foci with a certain amount of reserve. Billroth formulated three conditions to be fulfilled by multiple cancers before acceptance of such as individual and independent tumors: 1. Histological differences of such degree as to preclude the interpretation of the two growths representing different stages of development. 2. Each growth must spring from its parent epithelium. 3. Each growth must have its own group of metastases. A fourth condition specified that if, following the removal of both cancers at one operation, the patient remains well,

\*Read before Section on Surgery, Illinois State Medical Society, May 9, 1928.

the presumption that the two growths were independent of each other is strongly fortified, since had one represented a metastasis it would be reasonable to suppose the presence of others, a state of affairs incompatible with life. (Miller, *Annals of Surgery*, 1924.) Neither of these cases can meet all four requirements and yet present strongly presumptive evidence of being instances of primary multiple foci. One, a woman of 59, gave a history of rectal bleeding over a period of four months and of a tumor in the right breast of equal duration: the rectum showed an ulcerated induration in the posterior midline at the internal sphincter. The histology of the breast tumor was that of an adenocarcinoma and of the rectal tumor that of a colloid carcinoma. The breast was amputated, finding the axillary glands to show marked metastasis: the rectal tumor was removed and radium implanted in its bed. Death occurred at the end of one year from mediastinal involvement, at which time the rectum also showed recurrence. The second case, a man of 40, presented a tumor of the cecum and one of slightly smaller size in the center of the transverse colon. Search of the abdomen failing to reveal any evidence of metastasis the terminal ileum and the colon as far as the distal portion of the transverse colon were resected. The histology of the tumor in the cecum was that of adenocarcinoma and of the tumor in the transverse colon that of colloid carcinoma. While he is alive and well, but 8 months have elapsed since operation, too short a time for the fulfillment of the fourth condition.

Of the 53 patients with cancer of the colon 35 were males and 18 were females. The symptoms in this group have shown rather wide variation. Digestive disturbances have been the rule, in some instances constituting the sole complaint causing the patient to seek relief. Weakness and pallor were given by 2 as the only complaints. Weight loss in varying degree has been noted in more than 50 per cent. Diarrhea, with and without bloody stools, has been noted in lesions involving all parts of the colon, the diarrhea being more frequent when the cancer involved the right colon, the bloody stools more frequent when the left colon was the site of the growth. Constipation and obstipation were noted in but 3 of the 16 cecal growths, but was

frequently present when the lesion was in the left half of the colon. Pain was the chief complaint given by 22: in the most of these this symptom was to be attributed to a partial obstruction. Obstruction was noted in 23, or 43.4 per cent., 6 being acute and 17 chronic: 30, or 56.6 per cent., presented no obstructive symptoms. While obstruction occurs with lesions in all parts of the colon it was more frequent in the left than in the right half: the explanation being in part found in the fluidity of the feces in the right colon, as compared with the solidity of the feces in the left colon. The anatomical arrangement of the angles favors the development of obstruction when these parts are the seat of growths. This is especially true of the splenic flexure, acute obstruction not infrequently being the first subjective symptom of a cancer at this point. Again the annular, scirrhous or fibrocarcinoma, producing marked constriction of the lumen of the bowel, has been in our series far more common in the left than in the right half of the colon. The cecal and ascending colon cancers have been either the soft medullary adenocarcinomas or of the colloid type, the former more frequent than the latter. The soft medullary adenocarcinomas occurring in the cecum and ascending colon produce rather large tumors, the early ulceration and infection of which lead to rather marked anemia, disturbance of digestion and weight loss, although they may be still limited to the bowel and readily operable. The blood picture has been somewhat significant, the lowest counts being found in involvement of the cecum and ascending colon, the lowest hemoglobin being 32, the highest 90, the average for the 24 cases being 65; the red cells for the same group varied from 3 to 5 million, the average being slightly under 4 million. The average hemoglobin in growths of the transverse colon was 82, splenic flexure 87, and in the sigmoid 75; the red cell average was respectively 4,330,000, 4,820,000, and 4,720,000.

The only perforation with abscess formation in the present series was noted in a medullary adenocarcinoma involving the cecum, a complication that may occur with any type of cancer and at all parts of the bowel. A palpable mass was present in 93 per cent. of the growths in the cecum and ascending colon, in 50 per cent.



of those in the hepatic flexure, in 100 per cent. in the transverse colon, in 33 per cent. in the splenic flexure, and 36 per cent. in the sigmoid. The masses originating in the ascending and descending colons are usually detected in the abdomen at points corresponding to the usual course of the bowel: those at the flexures are fairly constant in their location due to the fixation of the bowel at these points: the mobility of the transverse colon is such at times that masses originating therein may be felt at any part of the abdomen: cecal masses usually remain in right lower quadrant, but in the event of the tumor originating in a mobile cecum quite a range of motion and consequent location will be permitted.

X-ray examination has shown constantly two manifestations, filling defects and obstructions, upon neither of which alone can the diagnosis of cancer be made. Syphilis, tuberculosis, pericecal inflammations and diverticulitis may each and all at times give x-ray manifestations indistinguishable from those produced by cancer. The barium enema rather than the barium meal has been employed since the distension of the bowel wall by the former gives clearer definition both under the fluoroscope and on the film. Sigmoidoscopy will reveal growths too low to be shown by the x-ray and should constitute a step of the routine examination. The diagnosis has been reached by a correlation of the history with the physical, laboratory and x-ray findings.

Of the 32 patients with cancer of the cecum, ascending colon and hepatic flexure 16 were subjected to radical and 5 to palliative operations. The radical operation has consisted in the removal of the terminal six to eight inches of the ileum and the colon from the cecum to the junction of the proximal with the distal two-thirds of the transverse colon. In 1 additional patient whose cecum and transverse colon both contained tumors the resection was made to include the proximal two-thirds of the transverse colon. Resection of the right half of the colon for cancer in any part of its course was routinely selected for two reasons, first because it permitted safe and satisfactory removal of the ileocolic and right colic glands, and second because of the greater ease and safety in securing union between the small intestine and the colon as contrasted with resection of the colon in continuity. In the

earlier cases closure of the ends of both colon and ileum with side to side anastomosis, suture method, was done, while in the later ones closure of the end of the colon with end to side anastomosis with Murphy button was employed. Both methods are satisfactory, but the latter has the advantage of being easier, simpler and quicker to carry out. There were three operative deaths, a percentage of 17.6; one on the fourth day from peritonitis; one from anuria on the ninth day in a 76 year old man in whom a portion of the ureter was removed on account of its incorporation in the tumor, the proximal end being ligated; and one on the twenty-first day from myocardial failure. Of the remaining fourteen, six are living and apparently well, 1 at 8 months, 1 at 1 year, 1 at 3, 1 at 5, 1 at 7, and 1 at 13 years after operation; 4 are known to be dead from recurrence, while the result in the remaining 4 is unknown.

In the 16 patients with cancer of the splenic flexure, transverse and descending colon, radical operation was done in 3 and palliative in 5. In the 3 radical operations there were two deaths, one on the third day from peritonitis and one on the thirtieth day from pulmonary abscess following septic infarct. The remaining patient is alive and well 7 years following operation. The operations consisted in resection of colon in continuity with Murphy button end to end anastomosis. Of the 12 patients with cancer of the sigmoid 5 had radical and 6 palliative operations. The radical operations consisted in resection with Murphy button end to end anastomosis. There were two operative deaths, one on the fifth and one on the sixth day from peritonitis. Of the remaining three, two are living, 5 and 8 years after operation, and one died from recurrence at the end of one year. Resection of the left half of the colon in continuity undoubtedly has a higher primary mortality than the Mickulicz operation and was selected because of the opportunity it affords for removing the mesocolic glands, believing that the added ultimate security given by such removal justifies the primary increased risk.

Of the 24 patients with cancer of the rectum 5 were males and 19 were females. Cancer of the rectum is usually noted more frequently in the male than in the female in the ratio of 4

to 1. In this small group the percentage is reversed. The symptoms were pain, tenesmus, constipation, bleeding and discharge with secondary disturbances of digestive function and, later, obstruction. The average duration of symptoms was 19 months, the shortest 2 months, and the longest 6 years. The blood picture varied with the stage of the disease and the amount of the bleeding. Little need be said about the diagnosis since the rectum is susceptible of both palpation and visual examination. It is only when one fails to employ these two measures that the lesion can be overlooked. The microscope may be required for the positive determination of malignancy, the eye and the finger being sufficient for the determination of the presence of tumor. In this series instances were found in which patients had been treated with ointments on the supposition that the symptoms were due to hemorrhoids, no examination of the rectum being made, the inevitable result being extension of the disease to the hopeless stage. One had been operated on for hemorrhoids only to find a continuation of her symptoms due to the overlooked cancer. Some excuse may be offered by a doctor for delay in recognizing cancer of the colon, none for failure to recognize cancer of the rectum: the one in a closed cavity may elude any but the most careful examination, the other sufficiently near the surface to be seen and felt will be detected if looked for. The so-called conservative operations for cancer of the rectum in which an attempt is made to retain the sphincter muscle have been disappointing in that recurrence almost invariably follows. Conservatism when dealing with malignancy conserves the disease not the patient. There are two potent objections to the old Kraske operation in that it does not afford access to all of the glands to which the rectal lymphatics pass and in that it leaves the artificial anus in a most inconvenient location. The two stage operation evolved by Coffey, in which a permanent colostomy is made, with removal of distal portion of sigmoid, mesosigmoid, rectum, perirectal fat and glands, appeals to one as being based on sound principles in that it removes the rectum and the cancer-bearing lymphatics that drain it. The first stage affords opportunity for accurately determining the operability, enabling one to avoid

unnecessary resections. Of the 24 patients in this group 8 had radical operations, all of the Coffey type, 7 two-stage and 1 one-stage: 8 had palliative colostomies and in 3 irradiation was employed. In the 8 radical operations there was 1 operative death, a mortality of 12.5 per cent., occurring from peritonitis 50 hours after the completion of the second-stage. Of the remaining 7 patients 4 are living and well at 1, 3, 4, and 11 years after operation: 2 died of recurrence at the end of 1 year and 1 is living with recurrence.

Operations done for cancer of the colon and rectum, as is true of all operations for cancer, must be complete in that the tissue involved and the tissue apt to be involved must be removed in all cases if a satisfactory percentage of cures is to be expected. This necessitates a knowledge of the characteristics of the growth, the methods of spread and the paths it takes as well as a thorough knowledge of the anatomy and physiology of the part involved. The blood supply and lymphatic distribution of the colon and rectum both necessitate and permit of radical removals, the loss of such part or parts being readily physiologically compensated. The operability of the growth, except in advanced cases can not be accurately forecasted until the incision is made: it will then be determined by the local attachments and visible spread of the growth, by lymphatic involvement and by distant metastases. Attachment to adjacent organs does not always contra-indicate radical removal if the attached and invaded organ is susceptible of removal. Such extension militates against the probability of permanent cure, but the prolongation of life and comfort thereby obtained makes the removal worth while. We have twice resected the ureter, once a loop of ileum and once the uterus without influencing the immediate result in but one case, mentioned above.

The enlargement of adjacent glands often presents a problem not soluble short of microscopic examination. The glands tributary to the right colic artery are commonly enlarged when the cecal growth is ulcerated and infected. Microscopic examination has shown both metastatic deposit and toxic lymphnoditis, it having been impossible in some instances to make the



distinction on other grounds. In view of such findings the presence of enlarged glands at this point should not deter one from doing a radical removal. While this is true to a lesser degree in cancers of the left colon and rectum, in our experience the hard, shotty enlargements indicative of metastatic deposit have been more frequently noted. Distant metastasis may occur in all parts of the abdomen and their presence should be excluded by careful search before determining upon resection: they are most frequently found as deposits in the liver and peritoneal transplants in the pelvis. In the presence of obstruction the two-stage operation is always safer. The absorbed toxins lower the resistance of the patient, the thickening and edema of the obstructed intestine interferes with its vitality and renders asepsis difficult to maintain, while the abdominal distension hampers both technique and manipulation. A colostomy or enterostomy for the immediate relief of symptoms with the radical operation when the condition of the patient permits will save lives that would be lost if the radical operation were attempted under such adverse conditions. An additional factor of safety now commonly employed in intestinal anastomosis and particularly applicable to colonic resections, consists of an enterostomy, anchoring a small tube or catheter in the bowel in such manner as will permit of a ready, spontaneous closure upon its removal. The relief of the distension and consequent pressure and tension on the suture line afforded by such a safety valve decreases the likelihood of necrosis and leakage with resultant abscess and general peritonitis.

A summary of the results in the 33 cases of radical operation shows an operative mortality of 8, or 24.2 per cent. Of the 25 operative recoveries, 13 are known to be living and well from 8 months to 13 years, 7 are dead of recurrence, 1 is living with recurrence and the result in 4 is unknown. The saving of life has been pitifully small when the total number of cases under observation is taken into consideration. It is to be hoped that the interest manifested today by both the profession and the laity in the cancer problem will ultimately bring colonic and rectal cancers under observation sufficiently early to make possible a better showing in the near future.

## ARTIFICIAL PNEUMOTHORAX WITH HIGH INTRAPLEURAL PRESSURE IN PATIENTS WITH PLEURAL ADHESIONS\*†

ROYAL W. DUNHAM, M. D.

Medical Director Ottawa Tuberculosis Sanatorium

OTTAWA, ILLINOIS

Collapse therapy in the treatment of patients suffering from pulmonary tuberculosis who have extensive involvement of one lung with little or no activity in the other has proven its value through many years of practical application. The two types of operations most commonly employed today are extrapleural thoracoplasty and artificial pneumothorax. Many clinicians are inclined to favor the former; both operations have their advantage in certain cases, but before either procedure is begun a careful study of each individual case must be made. Most observers believe that artificial pneumothorax should be tried before attempting the more radical operation of extrapleural thoracoplasty.

It is not the purpose of this paper to take up a general discussion of the comparative values of extrapleural thoracoplasty and artificial pneumothorax, but rather to point out the advantages to be gained through the use of high intrapleural pressure in patients with pleural adhesions, and I shall therefore confine my remarks to this subject.

The presence of pleural adhesions is considered by many physicians as a contra-indication to continue with artificial pneumothorax. It is true in the cases with extensive adhesions, which allow only space enough for a small pocket of air, that artificial pneumothorax cannot be successful, but if only a relatively small portion of the lung is adherent a good result may be obtained by inducing pneumothorax under properly regulated methods.

Some authors state that in many instances adhesions will yield to low pressure if refills are given frequently, but the writer believes that the number of cases is essentially small. Many operators are not in accord with the use of high pressure for the reason that they believe there is great danger of rupturing the lung through

\*Read before the Section on Radiology, at the Annual Meeting of the Illinois State Medical Society, May 17, 1928.

increased tension on the adhesions with a resultant spontaneous pneumothorax and empyema. Such accidents are of course possible and no doubt might occur in cases where the pressure is increased too rapidly or careful study of the pathology of the lung is neglected. Exceedingly high pressure may be employed without injuring the lung, as has been shown by Ulrici,<sup>1</sup> who increased the pressure to as high as thirty cm. of water while Stivelman and Rosenblatt<sup>2</sup> employ a pressure as high as twenty to thirty mm. of mercury.

High intrapleural pressure is a procedure which is used after failure to produce a satisfactory collapse under low pressure and is, therefore, a treatment of necessity rather than of choice. It is impossible at the beginning of the treatment to judge the amount of collapse that may be obtained, and experience has shown that the procedure to be followed in a given case must be decided upon after partial collapse has been produced. With this in view the writer has adopted the following considerations under which to administer high pressure therapy:

*Those patients in whom a complete collapse may be effected.* In this type of case adhesions are usually encountered at the beginning of the treatment and although not extensive may require positive pressure to produce a satisfactory collapse.

*Cases where high pressure must be used to maintain collapse.* It has been noted in cases with a straight line collapse that there is a greater tendency for adhesions to form between the visceral pleura and the diaphragm. When this condition occurs if high pressure is not instituted the lung will gradually be pulled out and become adherent to the chest wall. High intrapleural pressure will as a rule prevent adhesions from extending higher along the chest wall than the costophrenic angle.

*Those cases requiring aspiration in the presence of sero pneumothorax.* If the fluid is clear and free from pus simple aspiration may be done and the fluid replaced with air, always closing

each refill with a positive pressure, the extent of which must be judged by the type of adhesions present.

The following points in the management of patient's receiving high pressures are highly important to the success of the treatment.

Careful physical examination and roentgenological study of each case should be made before inducing pneumothorax. Fluoroscopic examination to determine the mobility of the diaphragm is highly important and should not be omitted from the routine examination.

In patients showing a cavity located near the periphery of the lung the pressure should be increased cautiously and frequent x-ray and fluoroscopic examinations should be made to determine the presence of adhesions which might produce tension on the surface of the lung located near the cavities.

If no pleural space can be found or only a small pocket of air can be produced the case should be referred for extrapleural thoracoplasty.

Manometer readings are very important and careful attention must be given to the degree of pressure produced at the close of each refill.

Refills should be given at least three times per week until sufficient pressure has been produced to maintain the desired amount of collapse. The periods between the refills may then be lengthened according to the amount of collapse sustained.

Most patients will complain of pain during the early part of the treatment and the operator must gauge the increase of pressure accordingly.

Practically every case will show a rise in temperature at the beginning of the treatment, the degree of which depends upon the extent of the lung pathology and the patient's reaction to the mechanical force exerted upon the lung.

Increased temperature and pain should not deter one from continuing the treatment, for if a satisfactory collapse can be obtained without development of complications the temperature and pain will subside, whereas, on the other hand, if the pressure is not increased the adhesions will pull the lung out, making it impossible to continue with the treatment.

Dyspnea is a symptom which is occasionally

1. Ulrici, H.: *Kunstlicher Pneumothorax durch manuelle Lösung der flackenhaft verwachsenen Lunge*, Deutsch. med. Wchnschr., 1918, 44, 1221.

2. Stivelman, B. P., and Rosenblatt, Jos.: *Management of Pleural Effusion in the Course of Therapeutic Pneumothorax*, Jour. Am. Med. Assn., 1921, 77, 12.



met with and in my opinion is a definite indication to withhold increase of pressure until the cause is determined and if possible eliminated. Shortness of breath may be produced by the formation of an excessive amount of fluid within the pleural space, cardiac disease, or spontaneous pneumothorax. In any event this symptom offers a poor prognosis and unless the dyspnea subsides the treatment is usually unsuccessful.

Seropneumothorax occurs in almost the same percentage of cases as is found in artificial pneumothorax with low pressure and is estimated at sixty per cent. of all cases receiving pneumothorax. The effect this complication may have on the prognosis depends entirely upon the extent of the effusion, whether or not it contains tubercle bacilli, and its tendency to become purulent.

Where reactivation or extension of the disease into the contra lateral lung takes place increase of pressure should be discontinued and the collapse maintained at this point, or if there is a rapid progression of the disease treatment must be discontinued altogether.

In conclusion I wish to say that no definite rule can be followed as to the time positive pressure should be instituted for the reason that the amount of pressure produced is dependent upon the condition of the lung as well as the patient's reaction to the treatment. When it is decided to increase the pressure it should be done gradually closing each refill from one to two points higher than the preceding one. Each patient included in the series from which this paper is written has received a positive pressure of at least 10 cm. of water.

The cases in which I have used high intrapleural pressure have responded satisfactorily to the treatment and in a few instances complete arrestment of the disease has been obtained. The prognosis in all of these cases was hopeless and sufficient collapse could not be obtained under low pressure to bring about improvement.

#### CONCLUSIONS

1. High intrapleural pressure is of decided value in many cases presenting pleural adhesions that will not respond to pneumothorax with low pressure.

2. There is very little danger of tearing or rupturing the lung tissue if the case is carefully watched and the pressure increased gradually.

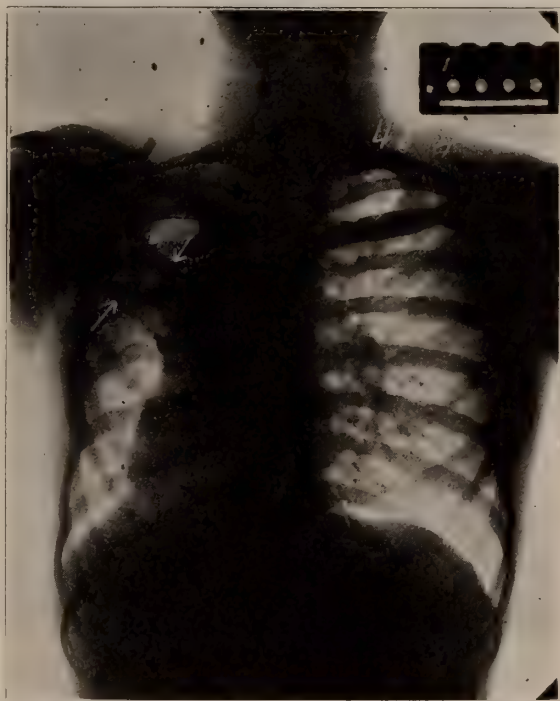
3. It should be tried in all cases where pleural

adhesions are encountered during the course of pneumothorax.

4. The danger of injury to the lung will be greatly reduced if frequent fluoroscopic examinations are made during the course of treatment.

#### THE AMOUNT OF COLLAPSE OBTAINED IN CASES NOS. 1, 2 AND 3, IS ILLUSTRATED IN THE ACCOMPANYING PLATES

Case No. 1. B. C. Female, white. *Diagnosis*—far advanced active pulmonary tuberculosis, involving the entire left lung. *Prognosis*—hopeless. *Temperature*—prior to treatment



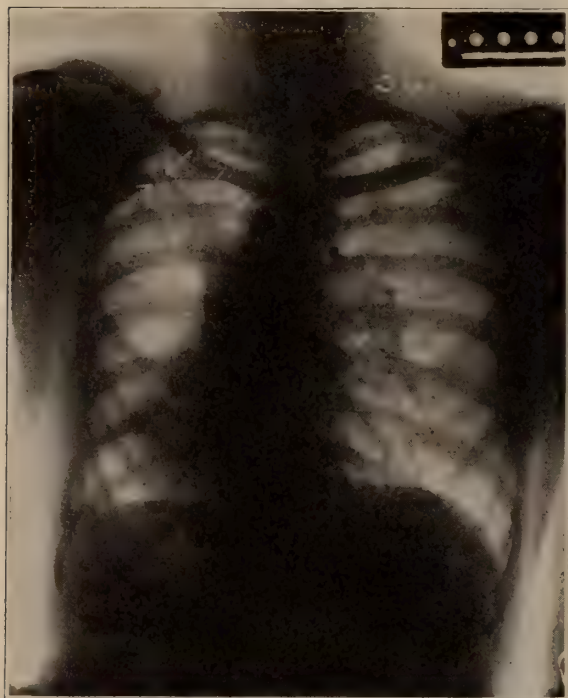
Case No. 1; plate No. 1. Taken shortly after pneumothorax was begun and showed a large adhesion on the left side, which is indicated by the arrows.

ranged from 99 F. to 101 F. Extensive adhesions encountered preventing satisfactory collapse. The patient received moderately positive pressure of from 3 to 4 centimeters for four months. The temperature during the process of collapse ranged as high as 104 F.; after satisfactory collapse obtained became normal and remained normal. The *sputum* was positive on admission but following collapse became negative and remained negative. Prior to treatment expectorated 120 c.c. during 24 hours; after collapse obtained decreased to 4 c.c. in 24 hours.

*Weight*—prior to treatment 100 pounds, which receded during the early part of treatment to 90 pounds, but following satisfactory collapse a gain of 26 pounds was made.

Case No. 2. J. S. Female, white. *Diagnosis*—far advanced active pulmonary tuberculosis, involving the entire right lung. *Prognosis*—very unfavorable. *Temperature*—prior to treatment ranged from 97 F. to 104 F. Following collapse, temperature became normal and remained normal. The *Sputum* prior to treatment was positive, Gaffke X; following collapse

right lung. *Prognosis*—very unfavorable. *Temperature*—before treatment 99 and 99.6. Became normal and remained normal after collapse. The



Case No. 1; plate No. 2. Shows the results obtained by instituting high intrapleural pressure. The adhesion which was overcome by the gradually increased pressure is indicated by the arrows.

sputum was still positive, Gaffke II. Prior to treatment amount of sputum expectorated was 140 c.c. in 24 hours; following collapse amount of sputum expectorated was only 8 c.c. *Weight*—prior to treatment was 108 pounds; following collapse 133 pounds, making a total gain of 25 pounds. Pneumothorax with negative pressure for 9 months without effecting satisfactory collapse. Positive pressure to 10 centimeters for nine months producing satisfactory collapse.

Case No. 3. S. F. Female, white. *Diagnosis*—far advanced active pulmonary tuberculosis involving the upper and middle lobes of the



Case No. 2; plate No. 1. Shows an unusually large adhesion which is outlined by the arrows.



Case No. 2; plate No. 2. Shows the extent to which the adhesion was stretched. The borders of the adhesion are outlined by the arrows. The arrows numbered 2 show the borders of the adhesion; the arrows numbered 1 indicate the border of the lung.



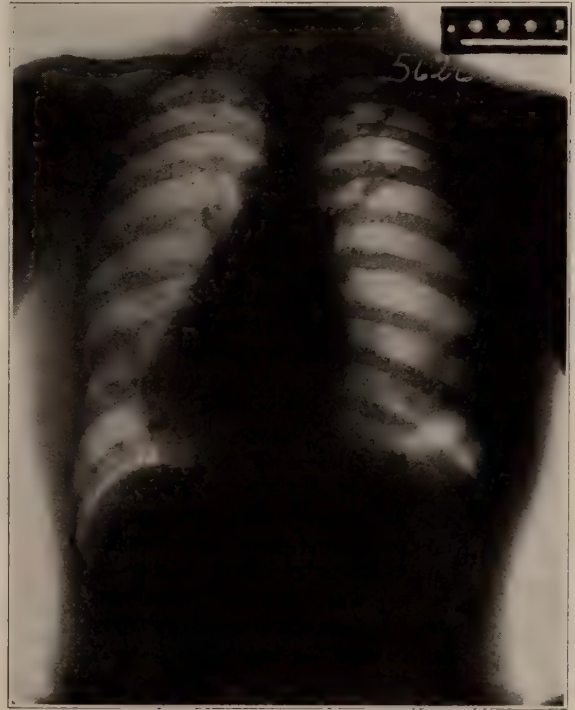
*Sputum* on admission was positive; became negative following collapse and remained negative. On admission the patient expectorated 90 c.c. during twenty-four hours; following collapse no sputum. *Weight*—before treatment 90 pounds; during and following collapse gained weight to 125 pounds, making a total gain of 35 pounds. Negative pressure was used for seven months with unsatisfactory results. Positive pressure for six months which resulted in satisfactory collapse. Each refill closed with manometer reading of positive 10.

The following is a report of cases treated with high intrapleural pressure, and the improvement in clinical symptoms is conclusive evidence of the value of the procedure in patients with pleural adhesions.

E. H. Male, white. *Diagnosis*—far advanced active pulmonary tuberculosis, involving the entire right lung. *Prognosis*—very unfavorable. *Temperature*—prior to treatment 101.6; after

for several months. High pressure induced to maintain collapse.

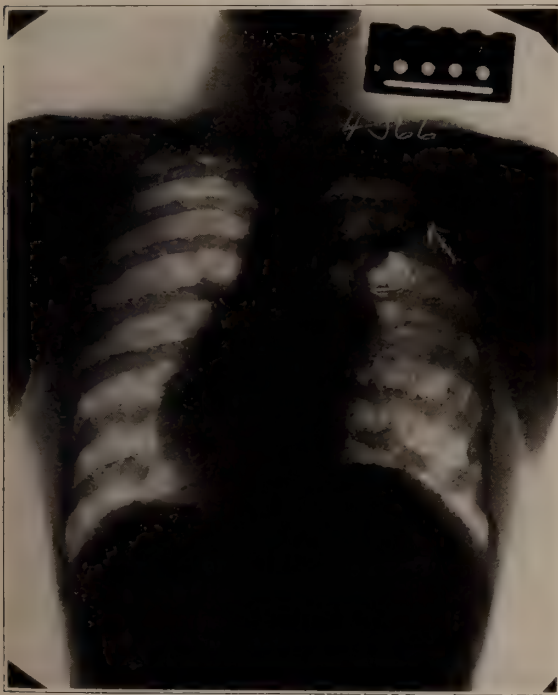
H. F. Male, white. *Diagnosis*—far advanced active pulmonary tuberculosis, involving the entire left lung. *Prognosis*—hopeless. *Temperature*—prior to treatment was 100 F. to 103.6 F.; following collapse dropped to normal and re-



Case No. 3; plate No. 2. Shows the lung to be completely collapsed. The adhesion is outlined by the arrows.

mained normal. The *Sputum* on admission was positive but became negative following satisfactory collapse and remained negative. On admission, the patient expectorated 110 c.c.; following collapse sputum cleared up entirely. *Weight*—prior to treatment was 105 pounds; following collapse gained 20 pounds. Positive pressure of 10 centimeters of water was used in this case. Low pressure for six months; high pressure for nine months.

G. N. Male, white. Had received artificial pneumothorax which had been abandoned on account of an extensive adhesion. *Diagnosis*—far advanced active pulmonary tuberculosis, involving the entire left lung. *Prognosis*—unfavorable. *Temperature*—prior to treatment was 100 F.; after collapse obtained became normal and remained normal. The *Sputum* prior to treatment was negative and remained negative. Ex-



Case No. 3; plate No. 1. Shows a large adhesion on the right side which is indicated by the arrows. This plate was taken after several inflations had been made.

satisfactory collapse obtained, became normal and remained normal. The *Sputum* prior to treatment was positive; after satisfactory collapse obtained became negative and remained negative. Received pneumothorax with negative pressure

pectorated 130 c.c. in 24 hours, which was decreased to 5 c.c. in 24 hours. *Weight*—on admission, was 89 pounds. Gained 11 pounds under treatment, making his weight 100 pounds.

### DISCUSSION

Dr. Trostler: I know practically nothing about pneumothorax as far as the therapy or its application is concerned; my knowledge of pneumothorax is almost entirely limited to its appearance in the fluoroscope and roentgenogram. We all know pneumothorax when we see it in the fil or in the fluoroscope.

I do not doubt but what this is a very valuable paper. That is as much as I am going to say about the paper.

We are very fortunate, however, I think, in having a man here who knows something about this subject and I am going to suggest as a substitute, not on the firing line because I would not want to substitute there if this were a scrap, but because this is a scientific subject, Dr. Alonzo C. Tenney, who I know will be able to give you something of benefit and value.

Dr. Alonzo C. Tenney, Chicago: This comes as a complete surprise. We were joking here and Dr. Trostler said, "I'm going to call on you to take my discussion up." I think he really doesn't know whether I know anything about it or not, but fortunately I had the privilege of spending several weeks down at Phoenix with my friend Dr. Good-year, who handles a great many tuberculosis cases, and another physician who has a sanitarium down there whose name escapes me just at this moment, and their recommendations regarding pneumothorax were about as follows:

In any case where cavity formation has occurred, pneumothorax in their hands was highly desirable. The earlier the cavity was diagnosed, the more promptly pneumothorax was given, the greater the chances of fibrosis of the cavity and the arrest of the disease.

I began to wonder if part of the results obtained were not the result of the pneumothorax which could be applied at any time rather than to the climate. Coupled with the pneumothorax, of course, they had the advantages of the climate in Phoenix, and they also used a great deal of heliotherapy.

The men I talked with believed in positive pressure of from five to twenty, using a water manometer. They favored beginning with a very small positive pressure, about five first and then increasing to ten, and seldom going above that except in those cases where the inflammatory process had been arrested, the sputum was decreased, there was absence of dyspnea, and a rather firm mediastinum and indications to show that they were not taking much hazard in increasing the pressure.

The dangers which they warned against were: Too rapid compression of the lung with dyspnea, which in some cases was fatal; the laceration of freshly formed adhesions with hemorrhage into the

pleural cavity (forming a hemothorax) and the massive collapse of the lung in case where there was a possibility of perforation around the mediastinum in any case where there were old ulcerated processes.

They attributed the increase in weight to two things: The clinical improvement of the patient (of course, when you produce the fibrosis and inhibit the invasion of the tubercular organism, and save a large amount of sputum which is a direct drain upon a person's vitality) there will be increased weight; and, secondly, to the decreased oxidation. With the forced feeding, complete rest and a part of the lung tissue collapsed, there is a decreased oxidation and they have to watch for development of acidosis and conditions which result from decreased oxidation.

They recommended the frequent small doses of nitrogen into the pleural cavity rather than massive doses at larger intervals. They begin a case with a small injection today and if dyspnea or any untoward symptoms—irregularity of the heart beat or marked tachycardia—develop, or sensation of shock, they would stop and then in twelve or twenty-four hours try it again and after the first readjustments which were necessary in the function of the heart and lungs were made, they would increase the quantity of nitrogen and consequently the pressure, and lengthen the interval between treatments so that in the course of two or three weeks they would be able to give treatments, compression treatments, at intervals of a week or ten days and sometimes they would go for a month between treatments.

Personally I have had no actual experience in the management of these cases. I am very happy to give you this second hand information for what it may be worth.

Dr. Cantrall, Bloomington: I'd like to ask the gentleman who just spoke if he doesn't think that the reason they have more dyspnea at the high elevation is because of the rarity of the air? It takes a good big lung to take care of a man.

Dr. Tenney: That is undoubtedly a fact.

Dr. Ronayne, Maywood: I'd like to ask the doctor, does he often have symptoms of shock due to massive collapse? What percentage of cases? His general results in complications following, such as infection of the pleural cavity.

Dr. Flinn, Decatur: I'd like to ask the doctor—some of his slides seem to have shown an involvement of both lungs—whether he collapsed when both lungs were involved or whether this was a fault in the slide that both lungs appeared to show infiltration?

Chairman Swanberg: I know there is one radiologist here who certainly knows something of the subject. That is Dr. Pettit.

Dr. R. T. Pettit, Ottawa: I was late getting back here and I did not hear Dr. Dunham's paper.

I do not know exactly what Dr. Dunham has said. I have been away for three months, and I do not know exactly what conclusions Dr. Dunham has come to in his work. It has been most interesting,



however, to me to watch the progress of his cases under the x-ray. I think it is of particular interest to us as radiologists because Dr. Dunham has used my services at every step to control his work and I know that he feels that the radiologic control in pneumothorax is the most important guide in the treatment.

These adhesions do stretch, the lung also re-expands and the amount of air that is put in the chest cavity, the number of treatments to be given, the interval, and so on, are all points that must be carefully controlled. The exact radiographic control of the patient, both by fluoroscopy and radiography, is extremely important.

Chairman Swanberg: This paper is open for general discussion. As Dr. Trostler has said the paper is one which I think the average radiologist would feel himself incompetent to discuss, however, it is certainly interesting work and it shows a phase of radiologic procedure and its value.

I would like to ask Dr. Dunham whether these results from pneumothorax treatment are caused by the actual rupture of the adhesions or are they dissolved? What makes them go away in the manner that they apparently do as shown by the roentgenograms?

Dr. Alonzo B. Tenney, Chicago: May I bring to your attention one very important thing and ask if you have had any experience? In hemorrhages from cavities, the pneumothorax is used as the treatment par excellence by people in the Southwest and I am sorry that Dr. Hayes isn't here today. He has had considerable experience in controlling pulmonary hemorrhage by positive pneumothorax pressure. Have you any information that you could give us on that?

Dr. Dunham: The question of whether, or not, the adhesions in cases receiving high pressure stretch or tear has been raised. I do not believe it is possible to determine definitely just what happens to the adhesions except as we can see them on the x-ray plates. In some instances it would seem as though they had actually torn loose, but in the majority of cases they appear to have stretched. It is my opinion that they are slowly stretched under the gradually increased pressure. In one of the cases shown here today it would appear as though the adhesions had actually been torn loose over a portion of the chest wall; however, remnants of the adhesions can be seen.

With regard to complications such as empyema or spontaneous pneumothorax occurring under the use of high pressure, I have never had either of these complications occur in the series of cases which I have shown here today. I have instituted high pressure in cases with pyopneumothorax who had been receiving pneumothorax for some time, with the object in view of preventing the formation of adhesions to the chest wall. In one or two instances a fistula has apparently developed which was indicated by the increased expectoration of purulent material. I do not believe, however, that the perforation of the lung in these cases can be attributed to

the high pressure as it is my opinion that this condition had occurred before increased pressure was induced.

In the uncomplicated case presenting adhesions, I feel that if the pressure is increased very slowly that there is very little danger of rupturing the lung. I usually begin the increase of pressure by changing gradually from negative pressure to zero and gradually increasing this to the point where the maximum amount of collapse can be obtained without producing untoward symptoms.

The question has been raised here with regard to the appearance of the opposite lung in the cases which I have shown here today. It has been my experience that after one lung is collapsed that the other lung will usually show greater densities, which I believe can be accounted for from the fact that the congestion in the "good lung" has been increased and that there is also a compensatory change which takes place in the bronchi. Physical examination of these cases has not shown any evidence of active lung pathology in the contra-lateral lung.

I have often given pneumothorax to control severe pulmonary hemorrhage. There are cases, however, in which pneumothorax might be considered as contra-indicated. I refer to the type of case in which a high temperature develops with the onset of the hemorrhage. These cases do not seem to respond satisfactorily to collapse and I believe the reason can be attributed to the fact that a bronchopneumonia develops in the lung from which the hemorrhage is coming. I have attempted to control hemorrhage in two cases of this type and have been compelled to withdraw the air on account of the severe dyspnea which was produced. However, in the uncomplicated case I feel that the treatment is definitely indicated and carries a high percentage of successful results.

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## THE ABUSE OF CESAREAN SECTION\*

PERCY W. TOOMBS, M. D.,

MEMPHIS, TENNESSEE

It is my first and most agreeable duty to express my profound appreciation of the honor conferred upon me by the invitation to address you on this occasion. The day on which one is welcomed into fellowship with the free and courageous souls of that "noble type who live not for self alone but the good of all" is a red-letter day in one's life, and to stand in this presence and witness the enthusiasm and devotion of men to an ideal is to become imbued with hope and faith, and to be made stronger and fresher to battle for the amelioration of suffering and the prolongation of human life.

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\*Read by invitation before Section on Surgery, Illinois State Medical Society, May 8, 1928.

Had the title not already been preempted, I should have called this paper *The Lost Art of Obstetrics*. Fortunately the great bulk of midwifery is normal in feature and in mechanism, but no branch of the medical art can supply complications and emergencies which, from their very nature and environment, are more thoroughly trying to the attendant than obstetrics. It is evident that he who performs an abdominal section has invaded the field of operative obstetrics. He no longer awaits his patient as did the old Roman midwife, ready to second the efforts of nature in carrying forward an inevitable physiological process. Instead he stands over her with a knife, and by doing violence to all these natural processes, feels confident of producing as good, if not a better result than could be reached by the old fashioned method to which a late president applied the new name of "watchful waiting."

Do not understand me to mean that I advocate a return to the obstetric methods which prevailed at the time the late lamented Julius Cesar made his entrance into the world. It is not of actual practice that I am thinking, so much as the attitude of mind at present prevailing. Everywhere we hear discussion of the failure of religion, of the lack of faith, the decline of spirituality, especially among our young people. We are told that the moral guides of our forefathers function no longer; in a word, that conscience is dead. Just so, it seems to me, has the "obstetric conscience" ceased to function.

The entire subject of Cesarean section has received an immense amount of attention within the past decade. The indices of medical literature have long sections devoted to it, and one hardly ever sees a programme given over to gynecologic or obstetric subjects that has not at least one mention of it. Just now it seems to have shouldered out "twilight sleep" as a topic of live interest, and in the delightfully free and outspoken discussions of the laity, holds its place with "birth control" and "companionate marriage" as conversational material for social gatherings of both sexes. We read that "the indications for Cesarean section have been greatly extended," usually followed by an imposing list of conditions in which the operation is now considered not only permissible but advisable. Worse than that, every practicing gynecologist

and obstetrician sees almost daily women who have undergone this operation and been left by it, if not completely sterilized, with a generative apparatus so mutilated that their efficiency as citizens charged with the duty of maintaining the population is lamentably reduced. Ten years ago Palmer Findley spoke of the manifold abuses which had at that time crept into obstetric practice, and gave it as his opinion that they were due to lack of training in modern obstetrics and "the temptation of notoriety from the performance of a spectacular operation." He went on to say that "belly-ripping has become a mania and its manifold ravages have invaded the realm of obstetrics to the extent of threatening to supplant many well tried and altogether reliable manual means of delivery through the natural passages. I have sometimes suspected that the surgeon is either unaware of the existence of a birth canal, or that he labors under the impression that the delivery of a child through the natural passages is a provision for those who do not have a competent surgeon at hand, that he views the natural passages as a makeshift exit to be used when the surgeon is otherwise engaged."

The first of these propositions remains perfectly true today,—want of proper obstetric training; or perhaps more exactly, failure to supplement with continued study and practice the very excellent training which is given in many medical schools, impels the practitioner, and all too frequently the specializing gynecologic surgeon, to decide upon a section because he is unable to cope with a perplexing situation in any other way. Except in the largest cities, midwifery is still largely in the hands of the general practitioner, but the growing tendency to fall back upon the specialist for anything that presents features varying in the slightest degree from the ordinary, is in evidence when the matter in hand is the physiologic function of child-bearing, quite as much as in pathologic conditions such as carcinoma or renal tuberculosis.

If a specialist is called in, he naturally is expected to "do something." If the practitioner finds, or believes he has found, conditions in his obstetric patient which preclude delivery in the routine manner, he is likely to seek aid from a gynecologist, or still more frequently from a general surgeon. A consultant summoned in this



way is practically forced to recommend some more or less spectacular measure, and thus many Cesareans are performed more to satisfy the patient and her family that the outlay for the specialist's opinion was a justifiable expenditure, than because there was no other possible way of settling a puzzling situation.

One aspect of the question has received practically no consideration. During the past quarter century we have learned at high cost how dangerous is the Cesarean undertaken in the second stage of labor, after repeated vaginal examinations and attempts at manual delivery. This is emphasized in everything written and said about procedure. All teachers of obstetrics urge upon their pupils the necessity of thorough prenatal examination, the careful measurement of pelvic outlet, the determination of fetal position and all other data which may help when labor actually sets in. Especially is this urged when the patient is a primipara. As a consequence the young woman in her first pregnancy is palpated and measured and considered in a manner which is always unaccustomed, and in not a few instances decidedly terrifying. The matter is talked over with her in detail; it is found that the pelvic outlet is somewhat narrow perhaps; the presentation seems likely to be an inconvenient one; or the mother always had such long and difficult confinements and "Bessie is built exactly like me." If there is likelihood of "trouble" when labor begins, how much wiser to decide upon a Cesarean beforehand, and take none of the risks involved in having to do one without proper forewarning? The idea of being soothed to sleep with a nice anesthetic and wake up to find oneself mother of an adorable infant, with no more trouble than having one's appendix out—and who thinks anything of *that*, nowadays?—appeals very strongly to Bessie after all the awful things she has heard about normal labor; and under pressure from the patient and her family, the doctor does not have much trouble in finding a sufficient "indication." Thus the perfectly reasonable and proper precaution which every obstetrician is in duty bound to exercise, reacts on him like a boomerang. If there were any way of ascertaining the facts I feel reasonably certain it would appear that the great increase in Cesarean sections over deliveries by the natural passages is in private practice, among the better, that is, the more financially

competent, class of patients. It has come to be regarded as an "easier" route to motherhood, and in the face of this conception its immediate dangers, to say nothing of its disastrous after-effects, are ignored or discounted.

For these reasons, the second proposition of Findley, that the surgeon seeks the notoriety of a spectacular operation, is not so impressive as it was ten years ago. A great many Cesareans are being done nowadays about which the operators say as little as possible, because they are desirous of avoiding professional censure. They only come to light when some enterprising statistician sets out to compile figures from various hospitals and "lumps in" the private cases with those done on the wards. And thus camouflaged no particular attention is directed toward them even then.

The mention of hospitals brings me to speak of another factor in the increase of surgical interference with labor that is not likely to be taken into consideration. This is the great number of relatively small hospitals which have been established all over the country since the end of the war. Everywhere this is hailed as an example of medical progress, and the advantages of having obstetric work done in these institutions is especially emphasized. Even such apparently unrelated situations as the utter disappearance of the old time "hired girl" have had their bearing in enhancing the popularity of "going to the hospital to have a baby." In communities supporting one or more small hospitals fully half the children born into well-to-do families first see the light in the private maternity ward. Now those hospitals are generally headed by a specializing surgeon, and the emphasis is always laid upon operative work. A hospital is regarded as "a place to do operations in." Seldom are specializing obstetricians attached to these smaller hospitals for the excellent reason that these gentlemen, while not wholly non-existent, are lamentably few and far between, and are likely to be found only in communities large enough to embrace a goodly number of parents who can pay big fees for each addition to the family. The parturient woman in the small general hospital thus inevitably comes under surgical rather than strictly obstetrical care, and the temptation to use operative measures, should labor present anything in the least out of the ordinary, is greatly ac-

centuated. This is one main reason why obstetrics is in danger of becoming a "lost art."

The situation in San Francisco as outlined by Spaulding a couple of years ago, is probably fairly typical of that in many of our larger cities. In his home town, he tells us, the obstetric patient is particularly well cared for by both specialists and general practitioners. Seventy-one per cent. are confined in hospitals, one-third of whom have practitioners who limit their work to obstetrics, or to obstetrics and gynecology, and comparatively few employ midwives. The general maternal mortality is less than half of one per cent. and the fetal mortality averages 6.5 per cent. In general practice very few Cesarean sections are performed, so far as available records show. In the teaching hospitals about one patient to forty or fifty deliveries is treated by Cesarean section, but in many of the private hospitals the recent records show that one in every eight or ten confinements are delivered by Cesarean section, mostly by obstetricians. If we can consider San Francisco representative of our greatest cities—and I deem it fair to do so—then the general surgeon presiding over the small hospital is only following the example set for him by the specializing obstetrician in larger institutions.

This review of the tendencies of both medical profession and laity toward increasing employment of a dangerous procedure, properly much restricted in its application, shows plainly that the need of education concerning this entire subject is extremely urgent. Social and economic conditions seem to operate relentlessly to urge young medical graduates away from specializing in obstetrics, or even accepting "confinement cases" as part of the routine of general practice, any longer than is absolutely necessary. "Too much night work; too poor pay for a lot of hard work," is the explanation regularly given. The man in this frame of mind can hardly be expected to possess the obstetric conscience developed to an advanced degree.

Let us consider for a moment what the whole sum of obstetric experience up to the present time has shown to be the absolute indication for doing an abdominal section upon a parturient woman. The "heirs to all the ages" in respect to this particular branch of human knowledge

may very well be the men now presiding over large maternity services in various parts of the country; such men as Williams of Baltimore, Polak of New York, de Normandie of Boston and De Lee and Holmes of Chicago. Williams quite recently went on record "that insurmountable disproportion between the size of the head and the pelvis, and obstruction by tumor are practically the only indications concerning which there can be no dispute." In none of the cases which he was discussing "did the indications consist primarily of abnormal presentations . . . and the current tendency to resort to Cesarean section in the presence of abnormal presentations in normal women cannot be reprobated too strongly. . . . A breech presentation occurring in an elderly primipara with a rigid cervix and a normal pelvis may afford a justifiable indication, but such cases are very exceptional . . . radical interference is sometimes imperative in neglected transverse, face and brow presentations in women with normal pelvis, but in such case it must be regarded as an emergency measure which is undertaken in order to prevent rupture of the uterus or the sacrifice of a good child, and must usually be followed by amputation of the uterus."

The views entertained by Polak closely correspond with those just cited: "Cesarean section is indicated in the patient in whom some definite pelvic obstruction exists, either as a result of actual contraction, or by the presence of tumors blocking the pelvis, which renders delivery *per vaginam* even of a dead or mutilated fetus either impossible, or so dangerous that abdominal delivery is attended by less risk to the mother. A contracted pelvis with the true conjugate of 6 or 6½ centimeters, or an immense child will give the absolute indication. This is admitted to be the only absolute indication for operation, and any operator who performs Cesarean for other reasons must be sure that the benefits which are to be expected from the operation both for the mother or the child, are sufficient to warrant the increased risk to the mother's life."

Five years ago de Normandie published and commented upon an investigation carried on in the state of Massachusetts regarding the prevalence of abdominal section in obstetric practice. It was found that in one year (1922)



1161 Cesareans had been performed in the state—one to every 78 births. Of the mothers, 102 died, the mortality being thus 8.8 per cent. Thirty died of sepsis and 23 of toxemia; embolism caused seven deaths, organic heart disease nine, and hemorrhage eight, while nine were attributed to acute dilatation of the stomach, and the remainder to various causes. "If the Cesarean is the simple operation it is claimed to be," queries de Normandie, "why do we obtain such high mortality?" His answer is that it is the "radicalism now rampant through the country that is the cause. . . . In certain communities all eclamptics, all previas, and many cardiacs are being delivered by Cesarean section." He goes on to say that in his own hospital service and private practice he has done Cesareans for every one of these indications, but that he nevertheless decries its employment except upon the most positive indications. Though nowhere in the numerous papers he has put forth on this subject does he once say that disproportion and obstruction of the birth canal are the only positive indications, his attitude, explained in details much too long to quote, leaves us in no doubt as to his conservative stand upon this question.

Holmes of Chicago seems to have been the first to cry in the wilderness against the indiscriminate use of abdominal section as a method of effecting delivery. As far back as 1905 he made a detailed study of the results of section done in cases of placenta previa, and deduced arguments, which so far as I am aware have never since been refuted, that the number of cases in which it was justifiable to open the abdomen were far fewer than those in which it was actually done. Since that time Holmes has gone on record at many meetings where obstetrical subjects were being discussed as holding the indications for Cesarean section within very restricted limits. "Gross cephalopelvic disproportion" he regards as the only unquestionable indication. But once a Cesarean has been done, he is firm in his conviction that the woman should never again be subjected to the "test of labor." He argues that "the danger of rupture of the uterine scar is one which may not lightly be decried; it is of small consequence when the section was dictated by absolute deformity for, per-

force, the section must be repeated at the end of each succeeding pregnancy." All the more reason then, for doing the first Cesarean only after the most mature consideration, and—what seems to me of the very greatest importance—fully impressing upon the patient and her family the future penalties which the operative delivery will impose.

One of the best, as well as the most recent summaries of the Cesarean situation which has come to my attention, is that of George Clark Mosher of Kansas City, presented before the Detroit Obstetrical Society a year or more ago. The indications which he considers legitimate are: "A Baudelocque of less than 17 centimeters and a true conjugate of 6 centimeters or a tumor blocking the outlet is a positive indication." However, "seventy-five per cent. of all pelvic contractions allow delivery by the natural passages." Of the so-called relative indications, he says: "In eclampsia the indication for Cesarean section is limited to the cases of primipara with rigid, long-unyielding cervix, no improvement following six hours of conservative treatment. Placenta previa is most generally an indication for Voorhes bag induction, the exception being severe bleeding with no dilatation in a previa centralis."

It is clear that the obstetric profession generally is awake to the dangers of promiscuous Cesarean section, and that the more conservative and thoughtful element of the medical profession in general is actively seeking to remedy what is rapidly becoming a most deplorable situation. Yet the spokesman for the more liberal side continually bring very persuasive arguments to bear, and by reporting isolated cases where Cesarean section was *not* done and the results were disastrous, make out a very good case for the more radical wing. Thus Budd van Sweringen says in melancholy reminiscence: "I review some of my early experiences with regret in the light of satisfactory results with Cesarean section, for it is certainly not pleasant to present a mutilated dead infant to a badly damaged mother as the net result of your skill in obstetrics." This accoucheur believes that if the pelvic diameters are ample, "if gestation has been prolonged and the position of the presenting head such that proper and complete flexion can-

not be secured, section should be chosen if the environment is at all suitable." It would hardly be pertinent to comment upon the skill and obstetric judgment which any confrere has displayed in a given case, nor to judge of it by what he has incorporated in a single brief paper, yet I cannot but feel that impatience, and possibly lack of a sufficiently thorough grounding in the fundamentals of delivery technique, *according to natural methods*, may in some instances have been responsible for the distressing occurrences to which he so touchingly refers.

It is incumbent upon every man who teaches or practices obstetrics to make plain the dangers which attend even the most carefully and skillfully performed Cesarean, and to spread this gospel among his students and patients with the avowed intention of lessening, not only the actual number of these operations, but also the number of requests for their performance, either from obstetrician or patient. All the efforts of humanitarians failed to stop the docking of horses' tails in England, but when Queen Victoria declared herself opposed to the practice and had false tails attached to all her docked equines, long-tailed horses instantly became fashionable, and the cruel practice was abolished without delay. If we can make Cesarean section unfashionable, the death-knell of the unnecessary operation will have been sounded. As it is now, the great Dr. A. does one upon prominent Mrs. Smith and "gets through all right." Thereupon the less prominent Mrs. Jones beseeches her less great obstetric attendant Dr. B. to "do" one upon her, and Dr. B. yields to expediency and finds that sufficient "indications" exist.

Probably no abdominal procedure is any easier of performance than an uncomplicated hysterotomy. As Williams has said, "Anyone with two hands and a few instruments can do a Cesarean section; it frequently requires great intelligence *not* to do it. The delivery of a difficult subject in a manner satisfactory to all concerned, without resort to spectacular surgery carries with it a feeling of just pride in his specialty, indicating "that one is a skilled obstetrician and not a mere operator." I would not go on record as saying that one should never open the abdomen of an eclamptic, of a decompensated cardiac subject, nor in cases of placenta previa.

In all of these section has many times turned defeat into triumph, when it seemed all hope was gone. These cases, however, are the exceptions which merely accentuate the general rule that section should be sharply limited in its indications and never undertaken without due consultation and carefully balancing all the factors favorable and otherwise.

Actually, there are comparatively few men who are completely fitted to perform this operation. Certainly not the ever-increasing number who so unthinkingly undertake it. The decision can only be reached by consultation with the man who has watched the patient during the gestation period, who knows her personal "equation" and is familiar with many features of the case which the hastily-summoned "specialist" cannot be expected to comprehend. Again, a man may be an excellent surgeon, but wholly unequipped as an obstetrician. He looks upon the fetus in the uterus as he would regard a cyst in the kidney; it must be gotten out immediately and the only way he knows is to cut it out. This may be good surgery, but only too often it is very poor obstetrics. The question as to whether or not a woman shall be subjected to the "test of labor" in a doubtful case, is often a matter which requires most exhaustive analysis. Here one's best judgment should be fortified by considering the possibility of section being later necessary, and palpation and rectal examination be substituted for exploration of the vagina.

In the category of complications in obstetrics the dystocias of labor stand out prominently and most surely represent to the practitioner a maximum test of heart, brain and nerve. A cool headed grasp of the local conditions obtaining in a given case supplies the indications toward successful treatment, and that appreciation, in turn, depends on an applicable knowledge of causes and varieties. Each case must be dealt with on its own merits.

The slogan given to the young doctor entering general or obstetric practice might very well be: In every case even slightly abnormal think of Cesarean section first, and do nothing to make it more hazardous later on; but *do* it last, when the best opinion backs up your conviction that it is necessary.

899 Madison Avenue.



THE RELATIONS WHICH SHOULD EXIST BETWEEN THE MEDICAL PROFESSION AND PUBLIC HEALTH OFFICIALS AND WORKERS\*

SAMUEL W. WELCH, M. D.  
MONTGOMERY, ALABAMA

The subject which I have been asked to present for your consideration, holds obvious implications: The relations which exist between medical practitioners and public health officials and workers should be harmonious. If a vigorous statement to this effect could establish and maintain harmony further discussion would be unnecessary. If a vivid description of the state of affairs which I consider ideal could contribute to this end such a visionary exercise would now engage my attention. In the words of Trader Horn it's "Easy stuff to do with a little lapse of the imagination." But I presume I have been invited to discuss this subject here because it is a matter of common knowledge that disharmony too often exists where harmony would be more desirable and profitable to all concerned and I have come to you in the spirit of the physician called upon to study symptoms, make a diagnosis and initiate a course of treatment. I approach my task with that degree of trepidation which its gravity demands.

Society is thoroughly aroused to the possibility of greater happiness and a larger usefulness through better health, both for the individual and the community and it is manifesting this new interest by unaccustomed if not unreasonable demands.

There is a demand for authoritative information on health subjects and a demand for the installation of health service both for the individual and the community. A general urge to meet these demands is felt by numerous and varied groups.

We have the local private agency supported by public subscriptions and administered by a governing board of public spirited citizens; this local board may and often does represent the interests and disburse the funds of private, state and national health agencies. There is the local official health agency which may or may not

be under the supervision of the official state board of health; and may or may not be subject to the stresses of local political interference. Occasionally there are the local *Demonstrations* of some of the great welfare *foundations* which have been created to deal with special problems and entrusted with large sums of money with which to finance a single activity. Then we have the private practitioners of medicine, men whose professional oath of allegiance binds them to a course of unselfish devotion to the welfare of humanity and whose personal and family interests furnish an added incentive toward an effective contribution to the well being of their communities.

These men constitute the only group or cross-section of society which is qualified by tradition and experience to provide sound leadership for the public health movement and to weld into harmonious endeavor the activities of diverse interests. What we find is not harmony and mutual understanding but distrust and mutual recrimination. The family doctor is said to be uncooperative and to require a great deal of "education" before he can be induced to relinquish the attitude of an obstructionist. The physician speaks openly and vigorously through his medical society and accuses the voluntary agency under lay leadership of grossly destructive tendencies in the health field.

This sententious attitude between the physician and health worker is particularly devastating to the official health agency. There is a mutual fear of interference, a tendency to obstruct on the one side and on the other a tendency to criticise the physician or to institute activities or measures from which the physician withholds his approval.

The physician is unable to lose sight of the fact that his livelihood depends upon the occurrence in the community of disease and accidents but no reputable physician desires to perpetuate the recurrence of these conditions in order that he may profit by attendance upon them in the role of medical advisor.

The layman is within his rights when he manifests an intelligent interest in the health and well being of himself, his family and his community, but he should not expect to assume the management of intricate forces involving a major branch of scientific medicine. This is a subject which he does not understand and for

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that reason he is unable to direct it with satisfaction to himself or safety to others.

Please do not misunderstand me. I am not criticising well meaning non-professional people. I am not criticising the medical profession. I recognize and approve the high purpose and genuine desire of both groups. What I am trying to say is that this is our work (the doctor's) and your work (the citizen's) and neither of us can repudiate it. What I am trying to get across to you doctors and through you to the lay people is that we must get together. We all wish to do the same thing. This work must be to do it. My challenge is not only to the laity but most emphatically and unequivocally to the medical profession. It is the doctor's business to keep the people well. When the doctor fails to keep the children of his friends and patrons well as far as he can, then he has failed to meet his highest obligation of citizenship. He has failed to do the thing the state has spent enormous sums to fit him to do. He, in other words, "has fallen down on his job."

Medical science has discovered preventives of certain diseases. Intelligent and well informed men are not going to let their children die of these infections because the local medical profession cannot agree on the method of procedure. Did you ever have one of your children "choke" to death with diphtheria? Have you ever seen your only son waste away and die of typhoid fever or tuberculosis? If you have not, you are not in a position to sympathize with the layman who gets impatient when the alleged ethics of the medical profession gets in the way of what he thinks will save his own or his neighbor's child. These are some of the problems of preventive medicine as an organized entity and as a branch of organized government.

How then can this situation be harmonized? The answer is, "through the exercise of intelligent leadership within the field of scientific medicine."

Preventive medicine (public health), is a specialty in the field of scientific medicine. The health agency which fails to recognize this tenet and to govern itself accordingly is courting failure in its most deeply cherished obligations. The medical society which has not yet awakened to this aspect of the situation is blind to its greatest opportunity for usefulness and deaf to the clear call of responsibility. The same can

be said of individual physicians who make up the membership of organized medicine.

Some good men within the profession insist upon regarding preventive medicine as an outcast because it is frequently sponsored by non-scientific people and occasionally characterized by empirical methods.

In respect to this I would remind you that scientific medicine was itself cradled in empiricism while every specialty it has brought forth has passed through a longer or shorter period of disrepute before attaining professional recognition.

Witness the peddler of spectacles who gave place to the trained oculist, recall the crude surgery of American Battlefields and compare it with the miracles of surgical skill in the great European War. Could any of these benefits have come to mankind if modern medicine had not appropriated every discovery of bona fide science and applied it to the enhancement of human welfare?

Knowledge must not be enslaved either by ignorance or group prejudice. Let medical men manifest as keen an interest in prevention as the lay person shows, let him come forward with his scientific background for an understanding of the problems involved, including, if you please, the economic problems which affect him personally and then let him not shirk his responsibility for finding a sane and practical solution of these problems.

Dominance of the health field by organized medicine is an accomplished fact in a few states, which have legalized this claim on the part of the medical profession. It might be claimed that such dominance would hardly prove feasible in a majority of the states; this conclusion it seems to me is not warranted. Please note that it was by the exercise of intelligent leadership within a state medical association that this position of recognized authority was first achieved while the same art by which it was established has successfully maintained it throughout a period of fifty-five years. It is no less true that this remarkable heritage has fostered within the medical association of the state which initiated it a zeal for public service which it would be difficult indeed to overthrow. I am convinced that the intensive exercise of official leadership by the medical profession has in this instance been justified by results. In



my opinion medical groups will have no real difficulty in controlling medical and health matters so long as more scientific information and more vital interest in human welfare are to be found within the medical profession than outside it.

The medical profession should promote a better understanding of preventive medicine among its membership and a deeper interest in public welfare as affected by preventive measures. It should recognize the self evident truth in jurisprudence that the first concern of government is the welfare of the individual, the family and community. It should learn to face without trepidation the fact of the state's responsibility for conserving and promoting the happiness and physical well being of its citizens. The fear that public health work may eventually eliminate the doctor of medicine should itself be eliminated. Experience over a long period of years proves the opposite to be the case. Far from eliminating the private practitioner, successful public health work merely changes the character of the services required of him. It brings his patients to him earlier and in greater numbers, fewer bed patients, more office and clinic patients. The results are more satisfactory to all concerned, the patient benefits physically while the patient, his family and the physician all share in financial benefits.

I would like to suggest a few policies to which state medical associations, volunteer and governmental agencies may find it expedient to adhere in the administration of public health measures:

Boards of health should be composed of medical men.

Health officers should be medical men who are in sympathy with medical ethics; they should be approved if not chosen by the medical organization in the community in which work is to be undertaken.

Local activities should be outlined or approved, initiated in fact, by the medical organization.

The health officer should frequently consult his medical board; lacking that, the local medical men, and press into service the local medical society in the activities connected with the public health program.

Clinics should be established by the medical

association; their administration may be delegated to local boards of health where these are to be found in active operation. In the latter instance it is expedient for the profession to direct the health officer to proceed with the work.

If clinic service is performed by the health officer or his associates it should be first officially approved by the local medical organization; it should be free and limited to those persons who are unable to employ a physician.

If clinic work is done by private physicians a fee may be authorized by the medical association which should have administrative control of the undertaking. The State Board of Health should furnish free biologic products for use in the public health program. The doctors should share in this also.

Every effort should be made to avoid pauperizing communities by offering free medical service to persons who should pay for it.

When voluntary health agencies wish to initiate local activities they should be advised to consult with the physicians and to be governed by the attitude of the local profession with regard to the expediency of the proposed measures.

All employees of official health agencies, especially public health nurses, should be thoroughly indoctrinated in the fundamental principles of medical ethics and in nursing ethics in its relation to the medical profession. They should at all times work in close cooperation with local practitioners of medicine and when found antagonizing or alienating their patients from them or criticising their work, they should be promptly eliminated from the official force.

In recognizing the medical profession as an authority, it may clarify our thinking to recall that there are several separate and distinct definitions of authority: 1. Legal or rightful power. 2. Government. 3. Power derived from opinion, respect or esteem; influence of character. 4. One that is claimed or appealed to, in support of opinions, actions, measures, etc.

If the medical group cannot qualify for the exercise of authority in its governmental aspect, it should strive to qualify in the domain of intellect and character. Authority exercised under an extra legal interpretation of the term is likely to be effective to the degree that it is gracious and acceptable to both official and non-official agencies.

All that is needed to ensure harmony between the medical profession and public health officials and workers is a better understanding of the purposes of each and plenty of character in action. This is a direct challenge to you gentlemen and a challenge to the professional organization which commands your allegiance.

#### DISCUSSION

Dr. Olin West, Chicago: I am sorry that Dr. Welch's paper could not have been heard by the entire membership of the Illinois State Medical Society and by every man and woman engaged in public health work in the state.

Dr. Welch is entitled by reason of training and accomplishment, to hold and to express opinions. Inasmuch as I have known him directly or indirectly all my life, having been born in his native state in which he practiced medicine for many years before he became its health officer, I find real pleasure in having been privileged to hear this paper, and having the opportunity to talk about some of the things he mentioned, and perhaps one or two that he did not mention. His opinions are entitled to the consideration of every man and woman who is interested in any manner whatsoever in scientific medicine or in public health, which is nothing more or less than part of the field of scientific medicine.

There are certain fundamental things it seems that we all might recognize and keep persistently in mind. One is that the medical profession cannot do all the work that it is called upon to do, and will always be called upon to do, in the curative field of medicine and actively direct and maintain the operation of the necessary public health agencies. Official health agencies have been established by law. The need for these agencies was very definitely proven before they were established and a need for the maintenance and continuance of these agencies become more and more apparent as the information about the prevention of disease is developed by those who work in the various fields of medicine. What I mean to say is, that we have state boards of health and county boards of health and city health departments. They have proven their value and we are going to have them as long as society exists and disease persists. The work of administration of the health department is a complex work which demands the active, persistent, everlasting study and effort of men who can devote themselves absolutely to it.

Public health work as we usually refer to it is largely education which is a continuing process that will go on as long as time continues, and on into eternity. And I doubt if the process will ever be finished, even to the very extreme limits of eternity itself.

We have in addition to legally organized health agencies a number of others—in my judgment, entirely too many—including some great foundations, endowed through the munificence of a single individual or a group of individuals, that have had come into

their hands immense sums of money that is meant to be spent and it is going to be spent. Some of these foundations have worked well and wisely, but some, in my judgment, have not pursued a very wise policy.

Some of them have adopted and have persistently held to the policy of upholding and improving and developing official health agencies. That, to my mind, is what all of them ought to do.

In addition we have a number of volunteer agencies that are supported in one way or another, and all very active in one way or another. Some of them have done good work but for some of them I am unable to find any very definite, worth while reason or excuse for existence. Thus a complex situation has been created.

The medical profession, trained to do the curative work of medicine until within very late years, has rather suddenly come into possession of a tremendous amount of knowledge about disease, its causation and its prevention. It is unreasonable, in my judgment, to expect a profession trained along one line, having practiced along that particular line for generations, to completely assimilate all of this marvelous amount of new knowledge that has suddenly been dumped before it, to change its entire system of practice and to adapt itself in its entirety for the immediate application in the large fields that have been so suddenly developed, of all that has been learned, and to do all that is to be done in the active management of necessary health agencies.

There is no doubt but that there is much misunderstanding on the part of the profession itself, on the part of those engaged specifically in public health work, and on the part of the public with respect to what the relations between the physician and the public health workers in the general program of public health administration should be.

There is no doubt either but that there ought to be a definite understanding arrived at and some specific plan of cooperation entered into. I believe that this is going to require before it can ever be realized, the abolishment of some agencies that are dipping into the field but I do not know how that is to be brought about.

I remember very well some of the problems that used to come up in my experience as a health officer, and how many times I, as a legally constituted official of the state, had programs decided upon after deliberate study and hard work and consultation with everybody concerned, interfered with by voluntary agencies who seemed to want to occupy the place of first importance and to assume leadership whether it belonged to them or whether it did not.

The first thing, I believe, that is necessary to bring about a definite understanding and get to work on a cooperative program that will really get somewhere, is to assign to the place of first importance in the public health field itself the legally established public health agencies. The volunteer organizations that want to come into the jurisdiction of a legally established agency ought to be made to agree to conform



to the programs of that agency which have been arrived at after due consideration of the interests of all concerned, including the practitioner of medicine, as a factor of prime importance in any public health program.

Public health agencies which are controlled and directed by laymen are rather prone to accept and are very impatient to act on the basis of every supposed discovery in medicine, especially preventive medicine. They are also disposed at times, to ignore or to misapply what has been definitely established as scientific facts. Dr. Welch had something to say about that. My conviction is that it is greatly to the credit of the medical profession that they have been slow to adopt measures that have been put before them as finalities—as finished, perfected methods—but have not yet stood the tests of time and practical usage. I think some of our public health workers have been prone to rush their programs on the basis of supposed discoveries which may eventually pan out, but which may not. Many times they have had to retrace their steps by reason of having made that mistake. Right there is to be found the explanation for some of the disaffection on the part of a conservative medical profession that has seen many myths exploded and wanting to be convinced, has not rushed in on the basis of a so-called discovery that has not been proven.

Sometimes our health agencies have been a little too ambitious in their claims. Not long ago I saw a layman exhibit some charts which showed that in a particular field in which his organization had been active, there had been a rather pronounced reduction in the death rate from tuberculosis, and his disposition was to claim credit for that reduction. I do not know whether his organization and its work had a thing in the world to do with it, because I know that in other places where no intensive work was undertaken, where nothing was done, exactly the same results were shown in the tuberculosis death rate. Then, too, I have known of instances where much fuss has been made over results shown on paper but not to be found in the field.

The medical profession has gone along for all of these many years and it has played an important part in the prevention of disease, even though no fuss has been made about it. There is mighty little that an honest and capable physician can do in his every day practice that does not have bearing and effect on the prevention of disease and on the reduction of prevalent disease. It is just a little irksome to have some layman who knows very little about the art or the science of medicine, to come in and claim credit absolutely and entire for developments that he may not have had anything whatever to do with, when the medical profession has been working along persistently and earnestly with a view always toward the prevention of disease.

The medical profession has a very definite and a very grave responsibility in this matter of public health. There are those things which doctors get for being doctors, and this responsibility with respect to

public health is one of those things, and they cannot escape it. I, therefore, find myself in entire agreement with Dr. Welch when he says that boards of health, whether state or local, should have representatives of the medical profession in their membership. The responsibility rests upon the medical profession, to see to it that physicians are put in the places where scientific medicine can serve helpfully for the common good. Every board of education in this country ought to have one or more physicians on it. I have seen efforts made to bring that about, that fail and then stop on the basis of one failure. That is a mighty poor effort to discharge a responsibility. It is poor sportsmanship. Do not quit on the basis of one failure. If they beat you one time, go after them again, and if they beat you a second time, keep after them and finally the thing will be won.

Within the last two years, the American Medical Association through its board of trustees, has called two conferences on public health. They have been little more than "gab-fests" in which Dr. Welch participated, and some of those who have attended those conferences have felt very little has been accomplished. But we have the open record of crimination and recrimination and we have given every fellow an opportunity just to open his mouth and say what he pleased. We have let the public health men tell the medical profession to its face exactly what they think, and the doctor tell the lay public health worker exactly what he thinks, and we have gotten out of the way now all of this small talk and all of this fuss and all of this "gab." Next we are going to try to use that conference to begin the development of a program that will get everybody to work together in an understanding way.

It would be fine if we could find a jumping-off place, with a plan agreeable to everybody concerned, and then jump off together and try to do something in cooperative fashion. But it is not as easy as it sounds. If we try to develop some plan to deal with diphtheria, here is a heart association, and here is a lung association, and here is a foot association, and here is some other kind of an association, and it is "Oh, we haven't any interest in that," "We are not going to have anything to do with that." It might be that if we could get rid of some of this multitude of organizations and get right down to brass tacks on the basis of needed organization, it might not be so difficult to find that jumping-off place and start a real program of cooperation between the medical profession and the official health agency, and the volunteer health agency that has any real excuse for existence.

There is, in my mind, no good reason why the medical profession should not be permitted to assume its place in the public health field and there is no good reason why the leadership of the medical profession should not be accepted, nor why there should not be earnest and persistent and continued cooperation toward the great end of making life safer and more efficient.

# TRANSPLANTATION OF THE HAM- STRING TENDONS FORWARD TO THE PATELLA FOR PARALYSIS OF THE QUADRICEPS EXTENSOR

ROBERT O. RITTER, A. B., M. D., F. A. C. S.

Junior Attending Orthopedic Surgeon, St. Luke's Hospital.  
Assoc. in Orthopedics, Northwestern University Medical  
School

CHICAGO

There is considerable divergence of opinion among orthopedic surgeons as to the results of the transplantation of the hamstring tendons forward to the patella. In the *British Medical Journal* of April 9, 1921, H. A. T. Fairbank



Fig. 1. A and B. A, Extension; B, Flexion

says he has never yet seen a biceps, which has been inserted into the patella, produce voluntary extension at the knee joint by contracting alone at the will of the patient. He has seen it contract with the flexors and interfere with the action of the flexors, but he has not seen it produce extension of the knee joint at the will of the patient. However, as early as 1902, Painter reported (*Boston Medical and Surgical Journal*, Vol. 148, p. 381) the transplantation of the biceps into a slit in the quadriceps tendon at the upper border of the patella. He also divided the inferior portion of the tensor fascia femoris from its attachment and reflected

it over the superior portion, making its combined insertion close to that of the transplanted biceps. His results were satisfactory to both his patient and himself.

It is the purpose of this paper to show that transplantation of the biceps, together with the semitendinosus, forward to the patella, when properly done, is one of the most satisfactory procedures we have in orthopedic surgery. The semimembranosus remains to flex the knee and to act as the antagonist of the transplanted muscles. Not one, but many of our own cases have obtained excellent and powerful extension of the knee and can extend the knee at will.

Wherever possible, it is wise to transplant these two muscles around the opposite sides of the knee instead of using only the biceps. When used alone the biceps may sometimes tend to produce knock-knee. Albee (*Surg. Clinics of North America*, April, 1925) states that there is practically no tendency to produce knock-knee in adults, but there may be some in children. One of my patients who had only the long head of the biceps transplanted at the age of six years, has walked twelve years since operation without a perceptible knock-knee. My own experience has been that the knock-knee and outward rotation of the tibia and fibula occurred before the transplantation rather than afterward. An osteotomy or other corrective measure at the time of the tendon transplantation is frequently necessary.

Lange (*Surg. Gyn. and Obst.*, April, 1927) states that it is his experience that transplantation of the hamstring is quite satisfactory, even though the action of the transplanted muscle is slight and the majority of patients are able to walk even without an apparatus, providing they have no flail knee joint.

The mistake often made is in not freeing the two flexors upward a sufficient distance from the femur and also in leaving the short head of the biceps attached to the common biceps tendon instead of stripping it off and leaving it in its original position. By freeing the muscles well up and bringing them forward on a long slant we keep as nearly as possible the normal line of action, and the muscles do not have to undergo so much readjustment to meet the new conditions of work. If they are freed up only enough to allow them to reach the patella by being brought around at an acute angle, the line of



action is altered too much and the muscles cannot adapt themselves to their new work; consequently they lose some of their power.

The blood supply of the tendon is very important. So long as the muscle attached to the tendon has its blood supply intact the tendon will not suffer. On the other hand, if the blood supply to a muscle, or to any part of it, is destroyed, death of that muscle or a part of it is the result, and only connective tissue elements remain. In order to contract, a muscle must have a blood supply just as an internal combustion engine must have its supply of gasoline and air.

The motor, vascular and sensory nerve fibers to the transplanted muscle must be safeguarded. The nerve fibers and the muscle fibers must be put at rest for a considerable period of time after a tenoplastic operation.

A skillful surgeon can successfully transplant a tendon, but the successful restoration of function, the aim of every tenoplastic operation, depends upon the will power and intelligence of the patient.

The process of re-education calls for patience, untiring effort and a keen mind on the part of the patient. It is only after months of repeated efforts that results begin to come.

In our clinic we have adopted a technic as follows:

With the patient lying face down or on the side, a long incision is made in the middle of the back of the thigh extending from almost the tuberosity of the ischium down to a point below the level of the head of the tibia. It is a mistake to attempt this operation through a short incision. The skin and superficial fascia are dissected up and pulled aside. On the outer side of the popliteal space the biceps muscle is fully exposed from its insertion upward seven or eight inches. At the upper end of the incision the long head of the biceps can be easily encircled with the thumb and index finger and isolated down to where it is continuous with the fibers of the short head. The common tendon is broad and thin, but with care it can readily be divided into two halves. It is very important to cut the tendon off at its insertion, taking with it some periosteum and bone from the head of the fibula. In freeing the tendon, care must be exercised to avoid injury to

the external popliteal nerve. A strong chromic catgut suture is woven into the tendon, starting at the distal end and weaving it in and out, going upward about two inches, and then going down again and out through the end of the tendon. This gives a firm grip of the tendon and also makes it a little rounder and firmer without producing constriction.

On the inner side we prefer the semitendinosus as a transplant because of its long tendon. This muscle with its sheath intact, can easily be freed from the semimembranosus and cut off low down at its insertion into the tibia. The sheath is drawn back and a chromic catgut suture woven into the tendon as was done in the biceps.

The patient is now rolled on the back and an incision made from the lower end of the patella, straight upward about four inches. The skin and superficial fascia are dissected back. A heavy curved pedicle forceps is thrust downward and backward through the subcutaneous fat, emerging in the posterior wound. The forceps is opened and shut in its passage in order to tear a wide tunnel through the subcutaneous fat. The tunnel must be made on a long slant upward so that the muscle can pull in as nearly its normal line of action as possible without having to go around a sharp angle. The chromic catgut is now pulled through to the patella. The same thing is done on the inner side of the thigh and the semitendinosus is brought out to the patella. In cases without flexion deformity the tendons are long enough to reach the patella without a plastic elongation.

A longitudinal cut is now made in the periosteum of the patella at the outer side and a groove made in the bone to receive the biceps. The two strands of chromic catgut threaded into strong, curved spear-pointed needles, are passed into the slit, in opposite directions forward and outward, through bone, periosteum and fascia and when these sutures are drawn taut the end of the tendon lies in this groove in the patella. The sutures are then tied over the tip of the tendon. In the older patients holes are drilled in the patella for the anchor sutures. This gives a firm insertion into the bone. Besides this anchor suture the tendon is further fixed by several interrupted chromic catgut sutures to the vastus externus and the quadriceps tendon. This gives excellent, firm fixation.

The semitendinosus is fastened into the inner side of the patella, to the vastus internus and quadriceps tendon in the same manner as the biceps. The tendon sheath is pulled down along the tendon as far as it will go and secured by a stitch or two. Preserving the sheath lessens the possibility of the formation of adhesions, although adhesions that sometimes form in the case of the biceps (where no sheath exists), do no great harm.



Fig. 2. A and B. A, Extension; B, Flexion

The tension under which these tendons are sutured into the patella has a decided bearing upon the end results. If under too great a tension the muscle becomes tired and loses its contractile ability, consequently it undergoes degeneration. On the other hand, if not taut enough a certain amount of the leverage is lost. One can only judge the proper amount of tension by one's sense of touch, and the ability to do this increases with experience.

After six weeks immobilization in a plaster-of-paris cast, with leg fully extended, active motions and muscle training are begun. Of these, muscle training is by far the most important.

This paper is based upon an experience of thirty-five cases and the following representative ones are presented:

Stewart MacN. Born in 1907. Had an attack of poliomyelitis the last week in September, 1912. There remained a paralysis of the muscles of the left side of the back, the quadriceps extensor and anterior tibial on the left side and of the anterior tibial on the right. On July 9, 1915, the long head of the biceps and the semitendinosus of the left leg were transplanted forward and inserted into grooves in the patella. Lange's silk was used in this case. He now has strong, but not quite complete extension of the knee joint due to the fact that the tendons were not freed upward enough and pull at too acute an angle. The biceps is functioning better than the semitendinosus. (Fig. 1.)

Alice MacN. (sister of Stewart) was born in July, 1909. Had an attack of poliomyelitis, sometime during October, 1912. She had a generalized paralysis and was unable to stand for one year. At time of operation she had complete paralysis of the right leg, paralysis of the left quadriceps extensor and some weakness of the semitendinosus and semimembranosus. On July 9, 1915, the long head of the biceps alone was transplanted forward into the patella and anchored with Lange silk. She now has strong and complete extension of the knee joint. There is no tendency toward knock-knee. (Fig. 2.)

Angelo L. Born in 1909. Had an attack of poliomyelitis in 1911. When he presented himself in the clinic in 1920 he had complete paralysis of the quadriceps extensor and anterior tibial on the right side. On October 6, 1920, the long head of the biceps, together with the semitendinosus was transplanted forward on a long slant and anchored into grooves in the patella with chromic catgut sutures. Unfortunately a few days later some sepsis developed, necessitating keeping the leg at rest for a much longer period than the usual six weeks. He also failed to return to the clinic for several months, but when last seen both the biceps and semitendinosus were functioning equally well. But at that time he was unable to extend the knee completely and could maintain the extension only a very short time. The action at the knee joint had improved rapidly with regular muscle training. There had also been a marked improvement in his walking. (Fig. 3.)

George N. Age 17½ years. Had an attack of poliomyelitis at the age of five years. Examination showed considerable scoliosis, right thigh contracted, right quadriceps paralyzed, hamstrings strong, foot in varo-cavus, slight power in anterior tibial, toe extensors good, planter fascia very tight.

Left leg. Anterior tibial paralyzed. Peroneus tertius good, toe extensors weak and foot in varo-cavus. May 19, 1920, the biceps and semitendinosus were transplanted forward to the patella. When seen March 29, 1921, the hamstring transplantation was considered a failure as no voluntary contraction could be determined. He was encouraged to make further effort to establish voluntary extension, at the knee, with the result that on June 17, 1921, there was complete and powerful extension at the knee joint.



Mary W. Aged 13 years. Had an attack of poliomyelitis when four years old. On admission to hospital January 28, 1926, there was complete paralysis of the left leg. There was a marked knock-knee, and paralysis of the quadriceps extensor on the right.

On January 30, 1926, the long head of the biceps was transplanted forward into the patella. At the same time the knock-knee was corrected by osteotomy. This child now has a straight leg and the transplanted muscle is a powerful extensor.

Maurice P. Aged 10 years. Had an attack of



Fig. 3. A and B. A, Extension; B, Flexion

poliomyelitis when 14 months old. He had complete paralysis of the left quadriceps extensor. The biceps was of normal strength but there was weakness of the semitendinosus and semimembranosus. July 7, 1926, the long head of the biceps was transplanted into the patella. This child has excellent function from the transplanted muscle.

Walter W. Aged 13 years. Had poliomyelitis. The muscles of both legs, and the right quadriceps extensor remained paralyzed. The left foot was stabilized three years ago. February 3, 1927, the long head of the right biceps was transplanted into the patella. A stabilizing operation was done on the right foot at the same time. The transplanted muscle is acting, and gaining in strength but cannot yet extend the leg. This patient now walks without a brace for the first time since the attack.

Several patients could not be located.

One who had a hamstring transplantation about

five years ago was last seen about one year ago. At that time no voluntary power in the transplanted muscles could be demonstrated but walking was improved.

Another returned to his home in Oklahoma eight weeks after operation, two weeks after removal of the cast. At that time the transplanted muscles were acting, but not powerfully. There was marked improvement in his walking. He has not been heard from since.

Another patient has not been seen since the day the cast was removed in June, 1921. He cannot be located and no comments can be made upon the results.

122 S. Michigan Ave.

### ARTHRITIS\*

JOHN A. MACGREGOR, M.D., F.A.C.P.

LONDON, ONTARIO

*Mr. President and Gentlemen:* The very general prevalence and the extensive crippling of its subjects leading to so much suffering, incapacity and economic loss would appear as sufficient reason for opening a discussion on chronic arthritis.

The conception of this as a "chronic rheumatism" would appear to be still rather generally present in the minds of a no inconsiderable number of the Medical Profession, while the adoption of the term by the laity has been almost universal.

Out of the chaos created by the earlier inclusion of most forms of chronic arthritis under this caption, there has gradually been evolved a by no means as yet satisfactory classification, but for practical purposes, a very useful grouping into various more or less distinct forms of the disease. It is with particular reference to the so-called nonspecific types of chronic arthritis that I wish to confine my remarks.

A reference to much of the literature reveals the fact that in the majority of instances an attempt, in some cases almost masterly, has been made to correlate both as to their etiology, pathology and clinical manifestations two quite distinct types of disease. To Garrod and the Goldthwaite possibly belongs the credit for drawing our attention to the difference, although isolated instances had been earlier referred to, but no attempt at systematizing these differences had been made.

\*Read before the Chicago Medical Society, April 18, 1928.

No doubt in a moderate percentage of cases these two types pursue their course *pari passu* in the same patient and frequently in the same joints. From this association it will be evident why such rather incongruous clinical and pathological pictures have been presented even up to the present time by many writers. In this way confusion has arisen in the past and still obscures the clinical picture, and what is of more importance, often brings discredit to the physician and his method of management, each apparently owning a very different pathology and etiology and each in turn requiring different management.

The first, and by far the most generally met with, I will introduce as osteo-arthritis or hypertrophic arthritis. Its anatomical features are evidenced in the changes in the bones leading to the production of osteophytes, a very moderate absorption of cartilage, moderate changes in the soft tissues about the joints with very little tendency to effusion into the joint except with the more acute exacerbations. Enlargement of the joints is the result of osteophytic production and swelling of the peri-articular structures, but striking deformity is not a feature, as it is so often in the type to be mentioned later.

It is met with most often between early adult and mid-life and would appear to own an etiology in focal infections as suggested by Bannatyne and others in the 90's from their occasional finding of organisms in the lesions and as demonstrated pretty conclusively by Rosenow under the divining hand of your own Billings. This early work of Rosenow would appear to have been amply corroborated by many other workers.

The organism most commonly responsible would appear to be some member of the streptococcus group and most frequently the streptococcus viridans. Rarely other organisms, probably most frequently the gonococcus, would appear to furnish the bacterial agency. A supposedly hereditary occurrence is best explained by the transmission from parents the subject of mouth infections, by means of fingers, osculation, etc., of organisms having a special affinity or tropism for joint tissues. Curiously enough, the white races are decidedly more prone to the condition than are the dark skinned races despite the fact that focal infection is not uncommon in them.

Remissions and exacerbations in the clinical course are noted with or without any notable associated changes in the focal infection with which the joint trouble is connected. Occasionally the onset may be very abrupt, presenting quite moderate fever ranging around 102 or 103 with decidedly acute changes in joint, so much so that rheumatic fever is suggested. More usually the onset is sub-acute, the patient with or without some exposure or a slight sore throat, complaining of soreness or stiffness in one or more joints with or without slight swelling but rarely redness. A sense of weakness is commonly noted. After a few days or possibly a more protracted period during which the pain slightly subsides in some joints to appear in others and then gradually and more or less completely disappears to recur sooner or later in the same or different joints. Evidence of its ravages gradually accrue until the activities of the patient are more or less seriously hampered by pain and limitation of movement. In the later phases this limitation of movement may be more or less continuous due to the development of the exostoses about the margins of the joint surfaces. During exacerbations the swelling of the peri-articular tissue and of the synovial fringes further hampers movement.

The involvement may be apparently monarticular as in the shoulder, knee or hip, but usually careful investigation will reveal the presence of small osteophytes, scrunching, pain on movement or limitation of movement in other joints.

The joints most often involved are the knee, shoulder and those of the hands. In the latter the formation of Heberden's nodes in the distal interphalangeal joints is rather characteristic. Quite frequently the sacro-iliac joints are attacked, less often others such as those of the vertebral column.

It is well to remember that injury, even though slight, may bring into relief a more or less latent osteo-arthritis. On several occasions I have seen this a basis of litigation. An intercurrent infection may likewise fan a smouldering process into activity.

I wish to note the not infrequent occurrence of a chronic endocarditis. I have never noted any evidence of an acute type. The process involves the mitral valve usually and is evidenced by a presystolic roughening of the first sound.



On no occasions have I seen evidence of advanced mitral obstruction following, such as met with when the endocarditis arises in the course of rheumatic fever.

Concurrently with the evolution of the joint problem one finds associated various other manifestations etiologically interrelated. At times these are the prominent feature of the patient's problem. The fibrositis involving the peri-articular structures shows a predilection for the connective tissue of the muscle sheaths, the intermuscular planes and the neural sheaths. In the former instance various painful conditions described as "muscular rheumatism" are noted. Chiefly among these one finds torticollis and lumbago, less often the intercostal and abdominal muscles. In the case of the intercostals a pleurisy may be suspected while with an involvement of the abdominal muscles the patient has been credited with an acute appendicitis and a surgical enterprise launched. I have noted the condition in the ocular and laryngeal muscles as well as various others.

A teno synovitis or bursitis is not of uncommon occurrence.

Fibrositis when it attacks the nerves rarely damages the neuraxons. Usually it is the perineural sheath, and while there may be pain and tenderness along the course of the nerve, the sensory and trophic evidences of changes in the fibrils are absent except in very severe or protracted cases. Neural involvement, while it may be met with in any part, is most likely to occur in some portion of the brachial plexus or probably more frequently in the sciatic nerve. With brachial involvement an arthritis of the shoulder joint is frequently combined while with a sciatica we have associated an arthritis of the hip or more usually of the sacro-iliac joints. This sacro-iliac involvement appears to comprise the majority of the so-called "sacro-iliac sub luxations" for the relief of which so much ingenuity has been expended in the production of various mechanical contrivances.

A panniculitis at times of rather extensive dimensions but more usually limited to the formation of small subcutaneous nodules may occur.

"Joint mice" would appear to evidence this type of arthritis, arising as the result of separation of one or more of the synovial fringes in

which marked fibrous or even cartilaginous changes have taken place.

The earlier the recognition and the sooner treatment is inaugurated, the better the outlook and the more likely is there to be restoration to the normal. Management begins with a careful search by every useful means for sources of focal infection in the teeth, tonsils, accessory nasal sinuses, gall bladder, appendix, pelvis of the kidney, pelvic adnexa, etc. I am not convinced that the gastro-intestinal tract in itself is an important factor in the production of arthritis. It is well to remember that infected areas which have a more or less free drainage on to a surface are less liable to be causative agents than when conditions are otherwise. This viewpoint would place the onus most often on dental and tonsillar infections and clinical experience would amply confirm this.

But how often does opinion differ on the presence or absence of evidence of infection. In the case of the tonsils, my criterion has been the presence of redness, swelling or edema of the anterior tonsillar pillar. The size of the tonsil appears to have no significance as to the presence of infection or as to its virulence. Many place great stress on their ability to squeeze pus out of the crypts. These crypts have a free avenue of drainage to the surface and examination of the material removed from them shows it to be comprised mostly of desquamated cells, fatty detritus and food particles with possibly a few leucocytes. Tonsils, no matter how small, but exhibiting evidences of infection should be completely dissected out. The infection is deep and "topping" them by the older or even the more recent methods does not ensure their complete removal. Usually very little objection is forthcoming when tonsillectomy is suggested.

How entirely different is the situation when one incriminates the teeth, more particularly if no local discomfort has been experienced. The patient's argument, that they "have never had a sore throat or any trouble with their teeth," may be countered by the reply that they may have a toothache in their elbow or a sore throat in their knee. No doubt most people wish to retain their teeth owing to the difficulty often experienced in getting a properly fitting denture. One chief reason for this I shall mention a little later.

I am afraid that a not inconsiderable number of our dental practitioners are responsible for our difficulties in having these sources of infection adequately taken care of. Many of these dentists may be classed as "conscientious objectors," but I fear many of them are woefully ignorant of the first principles of bone pathology. Unfortunately the x-ray does not always disclose the morbid process, but careful clinical observation I am convinced will give a wonderfully accurate idea of the changes present. These findings may be carefully correlated with the x-ray pictures.

Following the extraction of teeth showing apical abscesses which may be extremely minute though wonderfully potent to produce much trouble, as a rule, there is a prompt remission of the arthritic demonstration provided no other sources are existent. Occasionally one sees a rather sharp exacerbation in the affected joints following the extraction of such teeth. This would appear to be evidence of a direct association.

With a diffused alveolitis, evidenced on inspection by more or less swelling, redness or edema of the gum over the alveolar process about the roots of the teeth and in the x-ray picture by the absorption of lime salts about the roots of the teeth or more diffusely through the bone, the case is different. The process begins as a marginal gingivitis spreading to the alveolus and causing absorption of the gum and interdental bone. The teeth gradually become loosened by a more or less general rarefying process and often an extensive septic condition results. This latter is designated as pyorrhea. Usually its earlier manifestations are quite unrecognized or are sadly neglected. The less virulent infections give rise to an osteoplastic process about the teeth.

The rarefying osteitis presents a much more difficult problem than does an abscess. The pyogenic membrane of the abscess acts more or less as a protecting agent to the tissues about it, while with a rarefying osteitis no such protection is offered, the bone spaces being more or less open and offering a more ready avenue for absorption. This type of infection requires a much more prolonged period to recover, but the patient expects immediate results. Goadby says that 2 or 5 years are necessary for repair and

I can quite confirm his statement. In the meantime the patient, looking for immediate relief and not getting it, becomes disgruntled and starts out in search of other methods of cure vaunted to affect more prompt results. Ultimately the credit is bestowed on whatever particular treatment he may be following when his amelioration finally takes place. It is wise to warn patients with this rarefying process at work, that they must not expect improvement before some months.

Another serious factor looms large in procrastinating in the removal of teeth in these cases. The longer they are retained the greater the absorption of the alveolar process, so that when they are eventually extracted and a denture is necessary there is no sufficient process remaining to retain it and the patient is in for an uncomfortable and unhappy future, derogatory epithets being generously bestowed on the ill-fitting denture and the physician and dentist concerned in the removal of the originals.

Pulpless teeth are foreign bodies and almost without exception virulent organisms can be cultured from the root apices on extraction.

Personally, I give no quarter to teeth showing clinical or x-ray evidence of pathology. Their early removal is one of the very best measures in preventive medicine.

Involvement of the nasal accessory sinuses occupies, in my experience, a definitely less prominent position as a causative agency, but their thorough examination should never be neglected. The history of nasal discharge, repeated "head colds" or a tenderness over the antra with or without the presence of nasal obstruction demands that the x-ray be called to our assistance.

Much less frequently other sources of infection may be found.

In all cases they must be carefully sought for and if at all possible completely eradicated, as it is quite impossible to single out any one focus as definitely and solely the source of the trouble.

While the search for these various possible sources of infection is being pursued and during the often protracted period of waiting following their removal, the discomfort of the joint problem demands amelioration. Many are the methods and equally numerous the so-called specifics which have come and gone, all of them having been found sadly wanting. My reliance, at pres-



ent, reposes in a very few of the many drugs vaunted. Salicylates in some form or other appear to give most relief. They should be pushed to the point of relief or until their administration becomes intolerable. In most instances I have found their virtue greatly enhanced by antipyrin administered coincidentally with the salicylates or in the intervals between the doses. Rarely I have had the characteristic erythematous antipyrin rash occur and I have never seen anything of its reputed depressing effects. I have tried out most of the more recently marketed salicylic acid compounds, but I cannot say that they have any advantage over the older preparations except in possibly producing less gastric disturbance. but I am thoroughly convinced of their inferiority as judged by the relief of pain. By times one may have to resort to codeine which can be combined with the aforementioned remedies. Rarely is morphia required.

Locally dry heat applied in some of the many forms available gives most relief. I am not convinced that many of the local applications recommended are in any notable measure efficient.

Vaccine therapy, either stock or autogenous, applied either with a specific objective or as an agent in the production of "protein shock," in general has little appeal, as I cannot say after an extended trial that I have seen any results which would warrant any optimism on my part. I have, of late, employed these agents rather infrequently and can say with Miller, that "the results do not excite great enthusiasm." Nevertheless the occasional case presents itself in which this form of therapy may prove beneficial.

The matter of diet has received no little attention. I am not aware that I have observed any notable influence on the course of this type of arthritis accruing from the use of this or that type of food ingestion. I am convinced that meat is only not detrimental but beneficial to these patients. The elimination of proteins and various other articles of food, as even yet so frequently advocated, should not be tolerated. The patient should receive a generous amount of food without limitation of his protein and under no circumstance should he be further punished by dietetic restriction. The general nutrition should be maintained as near par as possible.

In evaluating the influence of any of these

measures, one must in all instances take cognizance of the naturally variable course of the arthritic problem, its remission and exacerbations of varying duration and the effect of the patient's general health and the prevailing climatic conditions.

The second or atrophic type of arthritis, rightfully termed arthritis deformans, appears to have little or no etiologic or pathologic relation to the one just passed in review. Promptly distinguishing it from the hypertrophic type it would appear that so far it has not been possible to produce it experimentally and microorganisms are of doubtful etiologic relationship.

It bears some clinical analogy to Still's disease as seen in infancy. It is met with most often in women, its incidence being about three times as frequent in women as in men. The majority of cases begin in early adult life, but its onset may be delayed until a later period. Progressiveness and deformity characterize its course. The anatomical changes distinctly differ from those of the hypertrophic type. There is marked thickening of the soft peri-articular structures, swelling of the synovia, definite increase of the synovial fluid and rarefaction of the ends of the bones entering into the articulation. The cartilage is rapidly disintegrated and extensive destruction of the ends of the bones follows. Sooner or later the loss of the articular surface together with the presence of muscular spasm is productive of more or less complete dislocation followed by ultimate joint fixation. The swellings in the joints are characteristically spindle shaped and the muscular atrophy proximal to the joints further accentuates this appearance. The bony development about the joint is usually the result of ossification in the peri-articular tissues or the adjacent muscle rather than of osteophytic origin and is responsible for the marked later fixation of the joint. True bony union is rarely seen, this being more commonly the sequel of a definitely septic arthritis. The smaller joints of the hands and feet are usually first attacked. Later the wrists, ankles, knees and practically all of the joints in the body including those of the vertebral column and the temporo-maxillary articulation may be involved. Even in the early phases the joint changes are almost characteristic. The lesions are usually symmetric. The metacarpo-phalangeal joints

are flexed, the proximal interphalangeal joints are hyper-extended and the fingers show ulnar deviation. The fusiform swelling is early in evidence and in the proximal interphalangeal joints is known as Haygarth's nodes. The skin in general, but particularly about the joints, is glossy with a tendency to be sweaty. The lymph nodes generally are slightly enlarged and a mild splenomegaly usually noted. Fever is frequently present. An increased cardiac rate is of almost constant occurrence and this is accentuated during the febrile periods. This increasing pulse rate is of value even in early cases in differentiating the two forms of arthritis, a desideratum to be desired from the standpoint of treatment. Gastro-intestinal manifestations are frequently observed.

I might note the occasional occurrence of loss of vision due to a gradually progressing destructive process in the eye. Two such instances have come under my notice.

Periods of activity alternate with more or less quiescent intervals. Occasionally, at a comparatively early period, the progress may be permanently stayed but more usually it pursues a merciless course, ultimately leaving the patient with the joints immovably fixed in most inconvenient positions.

Bacterial agents would appear to have little or no place in the direct causation of this atrophic form. The very constant presence of a lowered carbohydrate tolerance or, as I have noted in a goodly number of cases, a glycosuria or even a definite diabetes may be only a manifestation of the underlying problem, but the fact remains that if the arthritis is early recognized and dietetic measures adopted to take care of this metabolic defect there is coincident remission of the joint manifestations and not infrequently permanent relief so long as the patient maintains the diet. Needless to say, the very pathology of the disease precludes a restitution to normal if its progress is at all advanced. I am strongly convinced that the dietetic management offers us the most promising outlook. Restriction or even elimination of the carbohydrate intake is of prime importance. The earlier the condition is recognized, the sooner the regimen is adopted and the closer it is lived up to the more likely are we to obtain a remission. It

should be unnecessary to say that in more advanced cases little benefit can be anticipated.

Not infrequently evidences of a coincident hypertrophic arthritis are forthcoming and the focal infections so constantly associated with its etiology should be taken care of. In any instance these foci which, under all circumstances are prejudicial to the general health, should be removed.

Most arthritic patients are decidedly more comfortable in a dry warm climate and the benefits to be derived from this are always to be considered, though often the discomfort incident to travel and the inconveniences of abode may more than counterbalance any benefit derived.

As in the hypertrophic type heat applied in some form or other is often comforting. I think the relief from its application is even more striking here. Local applications appear to produce only a psychic effect.

With serious deformity threatening, means should be employed to prevent if possible its further development. Judicious massage and splinting may accomplish something. Forceable correction by fracture or an osteotomy may on occasion be advisable but should be employed only if some definite end is to be gained. I have seen marked improvement take place in a joint proximal to an accidental fracture close to the joint.

Medicinal measures similar to those mentioned in the management of the hypertrophic type find a rather less useful field here.

Fortunately in a considerable percentage of cases as the later phases are reached and the patient becomes exhausted by long suffering, there is often a notable spontaneous relief from the pain. This is brought about by the complete fixation of the joints. When the patient is seen late in the course, a prospect that this fixation will ultimately occur is but poor consolation to hold out. Unfortunately the ultimate is all too frequently reached.

Early recognition and the prompt adoption of a proper dietetic regimen appear to offer the best outlook in this otherwise relentlessly progressive disease.

I trust, gentlemen, that this rather brief review of this problem will elicit a discussion which will be beneficial to each of us and that the sug-



gestions proffered will bring more comfort, if not permanent relief to the wretched sufferers from chronic arthritis.

## IMPORTANT CONSIDERATIONS AND COMMON MISTAKES IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS\*

ROSWELL T. PETTIT, M. D.,

Ottawa Tuberculosis Sanatorium

OTTAWA

In the diagnosis of pulmonary tuberculosis a number of essential factors must be kept in mind. In many instances the diagnosis can be made without difficulty, but in many other instances to arrive at the correct conclusion it is necessary to utilize all of our skill and judgment, and only after an extensive study can we arrive at the correct conclusion, and it is in the early case that the correct diagnosis is most difficult. In these cases the diagnosis is most necessary because usually the early case can be cured. In the advanced case cure is difficult and many times hopeless.

What are the essential factors in making a diagnosis?

They are: 1. History; 2. Constitutional Symptoms (chiefly fever and rapid pulse); 3. Sputum Examination; 4. Physical Examination; 5. X-ray; 6. Tuberculin.

*History:* The history is extremely important. In fact, it is just as important to take a careful history in diseases of the lungs as it is in gastric ulcer, cancer of the bowel, or stone in the kidney. There are, however, special things in the history that are especially important in pulmonary tuberculosis. The history of exposure is very important, particularly exposure in childhood. Exposure in adult life, it is true, is important, particularly the relationship of husband and wife, but during recent years we have been paying less attention to adult exposure than formerly. For example, even in the relationship of husband and wife, careful statistical study has shown that the incidence of tuberculosis acquired in adult life is quite rare, but a little greater than found under the ordinary conditions of life.

Exposure in childhood, however, is extremely important. We now believe that most tuberculosis is acquired in early childhood from a tuberculous father or mother; that this tuberculosis may lie quiescent for a number of years until early adult life and then, due to some overstrain, such as study, hard work, dissipation, or childbirth, the quiescent tuberculosis acquired in childhood flares up and causes an active adult tuberculosis of the lungs.

Most important is lassitude or "tired feeling," the inability to get through a day's work, "lack of pep" or easy exhaustion. This is an early sign of absorption of tubercle toxins.

Another important symptom is loss of weight, and it is particularly important to note how much loss of weight and in what length of time. A loss of weight of a few pounds in several years is of little significance, but a loss of five per cent. of the bodyweight in six months or less is of great significance.

Digestive disturbances, so-called indigestion, loss of appetite or gastric distress and all the other symptoms that are usually associated with so-called "nervous dyspepsia." These stomach symptoms taken together with loss of weight and lack of energy are quite significant even before the symptoms referable to the lungs assert themselves. Another constitutional symptom usually associated with pulmonary tuberculosis is night sweats, but this symptom is indicative of a more profound intoxication and usually appears later and is indicative of a more advanced condition.

Symptoms referable to respiration are as follows:

Cough, expectoration, shortness of breath, pleurisy, and pulmonary hemorrhage.

"Pleurisy, either dry or wet, is according to our present day knowledge indicative of pulmonary tuberculosis." This statement, I fear, is a bit too broad. All cases of pleurisy are by no means tuberculous and I fear that this idea has incorrectly crept into our text-books. It can be stated more correctly, I believe, "pleurisy, dry or wet, should be considered suspicious of tuberculosis unless it can be definitely traced to some other cause such as pneumonia, bronchopneumonia or influenza."

Pleurisy *per se* can be caused by other organisms than the tubercle bacillus. We may truth-

\*Address before Chicago Roentgen Ray Society, October, 1927.

fully say a case of pleurisy not associated with an acute respiratory infection should be considered as tuberculous until proven otherwise.

Hemorrhage from the lungs, if it is a real hemorrhage, is practically always due to tuberculosis. It may come early or late in the disease, and if it comes early is a warning signal of great value.

What constitutes a true pulmonary hemorrhage?

A spoonful or more of bright blood coughed up or expectorated suddenly. The mere streaking of sputum with flakes or specks of blood cannot always be considered as blood coming from the lung. Hemorrhage from the stomach can usually be eliminated by being associated with vomitus and a definite history of stomach ulcer.

Cough and expectoration, the two most common symptoms associated with pulmonary tuberculosis, I have placed last because many cases of pulmonary tuberculosis, even though advanced, never have a cough, and while most cases of open active tuberculosis have expectoration, many cases do not, and there is nothing characteristic about the expectoration of sputum. While they are important, their importance has been over-emphasized.

*Constitutional Symptoms.* The two constitutional symptoms of importance that have not been mentioned under history are (a) fever; (b) increase in pulse rate.

Fever is an extremely important symptom because it indicates a toxin absorption. The fever associated with pulmonary tuberculosis is usually slight, more often below 100° than above, and accompanied by a pulse rate out of proportion to the degree of temperature. A single observation of the temperature and pulse in a clinic or a doctor's office is of little significance, particularly in children. A slight rise in temperature of a few tenths of a degree, or an increase in the pulse rate may be caused by excitement of coming to the doctor's office or to the clinic or to the stuffiness of a waiting room. When I speak of temperature and pulse observations I mean observation of the temperature and pulse several times during the day—morning, afternoon and evening—with the patient at rest and free from excitement over a period of several days. This can best be done in the patient's

home by one trained in making the observation (a visiting nurse) or better still in the hospital with the patient under absolute control.

Under these conditions a constantly sub-normal temperature in the morning with a rise of even a few tenths of a degree above normal in the afternoon accompanied by a rise in the pulse rate of ten beats or more above the normal is extremely significant.

*Sputum Examination.* "We may be excused for not getting a careful temperature record on our patients; we may even be excused for not taking a careful history and we may very readily be excused for not hearing fine rales on physical examination, but there is no excuse for neglecting to examine the sputum." (Lawrason Brown.) Laboratories are available everywhere, and if your patient cannot pay for a sputum examination the specimen may be sent to the State Board of Health, where it is examined free of charge.

If we find the tubercle bacilli in the sputum, the diagnosis is absolutely conclusive and positive. The finding of tubercle bacilli in the sputum is the one positive thing in the diagnosis of pulmonary tuberculosis. The failure to find the tubercle bacilli, however, is of little or no importance. A positive sputum report is absolutely positive; a negative report merely means that the tubercle bacilli were not found in the small particle of sputum examined, and it is not safe for us to say that the sputum is negative until a number of examinations, certainly four or five, have been made.

Many patients will say that they do not expectorate, but if the sputum container is placed in their hands and the doctor insists upon coughing and expectorating, something can be usually procured for examination, and even though the expectoration is slight and apparently insignificant, frequently on examination the tubercle bacilli are found. Get a specimen and examine it!

*Physical Signs.* The next important thing in the diagnosis of tuberculosis is the physical examination. It goes without saying that in making a physical examination the patient must be stripped to the waist and the bell of the stethoscope placed in contact with the patient's skin. No examination, under any circumstances, can be made satisfactorily otherwise.

Of the various procedures in making a phys-



ical examination it is perhaps well to point out the relative merits of these different procedures. They are (a) Inspection; (b) Palpation; (c) Percussion; (d) Auscultation.

Of the four methods in common use, in my opinion, the two most important are inspection and auscultation. Palpation, in my hands at least, has been of little value. We can, it is true, by palpation, make out a spasm or atrophy of muscle, but it is well to remember that these are merely suggestive signs. Percussion is much the same. Dullness and flatness can be determined, it is true, but it has been my experience in checking the findings by percussion with the x-ray plates to find how little I have found on percussion. Inspection and auscultation, however, are of great value. On inspection the general appearance of the chest, the musculature and posture are valuable, but of greater value is the drooping of the shoulder, the elevation of the shoulder and lagging on inspiration. In auscultation the character of the breath sounds, whether sharp or faint, whether bronchial, broncho-vesicular or vesicular in character is important, but of the greatest importance is the finding of rales and particularly fine crepitant rales. The rales found in tuberculosis, unless they are fairly large and coarse, and in the presence of a well advanced disease, are fine in character and found chiefly at the beginning or end of inspiration following an expiratory cough. If we find rales such as these, persistent, constant, and localized, they are of greater significance in the diagnosis than any other one sign except the finding of tubercle bacilli in the sputum. Note that I say the rales are fine in character, heard at the beginning or end of inspiration after an expiratory cough, and are persistent, localized and constant. I think these crepitant rales are of the greatest diagnostic importance. Other findings on auscultation, such as vocal fremitus, increased whispered voice, cog-wheel respiration, etc., are relatively unimportant.

**X-ray.** Next to physical examination the x-ray has come to occupy a most important place. Its importance and value in the diagnosis of diseases of the chest is now undisputed, but an x-ray picture, no matter how well taken, must be properly interpreted. An increase in hilus densities, and "peri-bronchial thickening" are

not diagnostic of pulmonary tuberculosis. The thing of importance in x-ray diagnosis is to find mottled densities either large or small in the lung parenchyma, particularly in the outer half of the lung fields. The character of these densities, and their extent, distribution, and outlines are of great significance in the making of not only a diagnosis but a prognosis as well. With the introduction of this more recent and very accurate agency in the determination of pulmonary densities much information regarding the extent and character of the pulmonary pathology present has been gained, but there is no excuse for rushing a patient off to a roentgenologist for an x-ray picture and trying to make a diagnosis of pulmonary tuberculosis on the x-ray findings without taking a history, making a physical examination, or examining the sputum, etc., and this I am afraid is too frequently done. I have found many roentgenologists who are unable to make a correct interpretation of the findings on the x-ray plate. They usually find too much rather than too little.

The fluoroscope is of value in observing the aeration of the apices of the lungs and to observe the movements of the diaphragm. It is entirely unreliable in the determination of pulmonary densities. An x-ray examination means stereoscopic plates and not simply a fleeting fluoroscopic observation.

**Tuberculin.** Tuberculin, both cutaneous and subcutaneous, are of value. The cutaneous test is of no value in adults, but is of great value in children, and the younger the child the greater its value, and in making a statement of its relative value at different ages it may roughly be stated that it is ninety per cent. correct in children one year of age and under and decreases ten per cent. in accuracy with each added year of life. In other words, after ten years of age a positive cutaneous tuberculin test is of little or no value.

The sub-cutaneous test is of value in those cases in which a diagnosis cannot be made by the other agencies above mentioned, that is in the case that has many of the symptoms of tuberculosis and yet the physical signs or the x-ray findings are merely suspicious and not conclusive. A sub-cutaneous injection of old tuberculin will frequently bring out signs in the chest that are latent and with the production of a sharp

reaction at the site of injection and a sharp rise in temperature make the diagnosis conclusive. It is well to remember, however, that the tuberculin test does not differentiate active from arrested tuberculosis.

In recapitulation then, I consider the important diagnostic procedures in pulmonary tuberculosis to be 1. a careful history; 2. observation of the temperature and pulse over a period of several days. 3. sputum examination (a positive sputum is conclusive; a negative sputum is of little significance); 4. physical examination of the chest with patient stripped to the waist, and with particular stress on inspection and auscultation, and in auscultation the findings of persistent, constant, and localized rales; 5. stereoscopic x-ray plates, without too much attention being paid to hilus densities and peri-bronchial thickenings; 6. the use of tuberculin in young children (cutaneous) and sub-cutaneous injection in those adult cases in which a diagnosis cannot be made by the other procedures.

"Common sense, patience, and painstaking thoroughness on the part of the doctor are the true essentials in arriving at the truth. It is more what the physician has in his head and less what the patient has in his lungs on which the correct diagnosis and the patient's life depends."

#### HELIO THERAPY (NATURAL AND ARTIFICIAL): ITS LIMITATIONS IN PEDIATRICS\*

L. W. SAUER, M. D.,  
EVANSTON, ILL.

Sea-shore, mountain and country-side have been extolled as places of convalescence from times immemorial. Various ancient Greek and Latin medical writers give indications and contraindications for heliotherapy. The gradations of exposure of the body recommended by several sound quite modern. Their thermal baths and many homes had solaria. Ancient pictures, unearthed at Pompeii, show how the roofs of many houses were arranged for sunbaths. With the advent of Christianity sunbaths fell into disuse. During the 18th and 19th centuries a few European clinicians used sunlight as a curative agent. Modern heliotherapy began in 1903, the year

Rollier opened his hospital for children with surgical tuberculosis in the mountains of Leysin, Switzerland. He and numerous others since then have furnished indisputable clinical proofs that light has curative qualities. The French have their sea-side sanatoria; Escherich, and later Pirquet, have used the roof of the children's clinic in the heart of Vienna, Trudeau used the elevation at Caranac and Finsen at Copenhagen cured tuberculosis of the skin with the carbon-arc light. These clinicians and their numerous disciples found light therapy beneficial long before we had scientific data to prove the value or action of light.

Spectroscopic studies on sunlight, on the various kinds of artificial light, and on the permeability of the various kinds of glass for ultra-violet rays, and the perfection of the quartz spectograph have given heliotherapy a scientific basis.

Before such accurate knowledge light therapy was a phase of clinical empiricism. We have now begun to learn why some diseased conditions are benefited, others uninfluenced or harmed by exposure to light.

At Rollier's 1,200 bed hospital 4,000 feet above sea level only natural sunlight is used. His technic is as follows: The head is protected during the first 3 weeks of treatment; goggles are worn, and the front and back are exposed three times daily with 10 minute intervals as follows:

- 1st day only the feet are exposed for 5 minutes.
- 2nd day feet 10, up to knees 5 minutes.
- 3rd day feet 15 up to knees 10, hips 5 minutes.
- 4th day feet 20, up to knees 15, hips 10, abdomen 5 minutes.
- 5th day feet 25, up to knees 20, hips 15, abdomen 10, chest 5 minutes.
- 6th day feet 30, up to knees 25, hips 20, abdomen 15, chest 10 minutes.
- 7th day feet 35, up to knees 30, hips 25, abdomen 20, chest 15 minutes.

The patient is then gradually exposed longer until he spends from 2 to 4 hours in the sun. After pigmentation is complete accidents seldom occur. Until then, harmful symptoms may arise. They are, in the order of frequency: temperature elevation, tachycardia, dyspnea, headache, sleeplessness, anorexia and depression. Factors which influence natural heliotherapy are: geography, altitude, season, time of day, humidity, clouds, temperature, wind velocity, pureness of the air, and the reaction of the individual. Exposure should be given before the noon meal, or, on hot days, in the morning or afternoon. This

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multiplicity of influencing factors with their uncontrollable daily variations has limited natural heliotherapy. Some of the shortcomings are:

1. The daily variations in the amount of ultraviolet rays often make progressive treatment impractical.

2. Sunlight is not always available (winter, inclement and cloudy days).

3. The curative rays are weakest when and where they are most needed—in winter, late autumn and spring, for young infants in congested industrial centers.

4. Prolonged exposure of infants and delicate children in cold weather may prove hazardous. Serious respiratory infections with their ensuing complications may do more harm than the benefit which might be derived from a fleeting exposure to the sun.

5. On hot days sun baths must be given with great caution, as the excessive heat may cause anorexia, vomiting, diarrhea, sunburn, heat stasis or sunstroke.

6. Window glass absorbs most of the beneficial rays.

7. Individuals respond differently to a definite amount of light.

Despite these shortcomings, Rollier maintains that natural sunlight is far superior to artificial light, regardless of its source. He maintains that natural sunlight contains beneficial rays not emanated by any artificial light. He adds that if the quartz lamp is used, then a heat lamp of the Sollux type should be used in conjunction in order to enhance penetration.

Hulschinsky's fundamental observations on artificial light therapy in rickets were supported by convincing x-ray roofs. He found that only rays under  $310\ \mu\mu$  are of value. Studies on blood chemistry by Rothmann and others show the calcium and phosphorus content of the blood in rachitic infants increased after exposure to light. Hess, Steenbock and György found that food exposed to ultraviolet radiation acquired anti-rachitic properties, but subsequent work by English observers showed that food so treated is changed chemically and some of the products formed are more or less harmful to infants. Stepp thinks that in the skin exposed to ultraviolet light a vitamin-producing substance is formed. Windhaus claims to have isolated chem-

ically what he calls "provitamin." Others maintain that the protein metabolism, the quality and quantity of leucocytes, the hemoglobin, the sugar content of the blood, the protective mechanism against infection and various other bodily functions are influenced by exposure to sunlight or ultraviolet radiation. It is questionable whether all of these actions are dependent upon the vitamin formation or production in the skin. Shubert's studies lead to the conclusion that a resorption of ultraviolet energy occurs in the blood stream of the skin capillaries. Whether all of these changes occur equally in health and in disease needs further study. For example, it has been claimed that the percentage of hemoglobin is increased by systematic exposure to ultraviolet light, but will exposure, *per se*, cure anemia due to various causes?

In few fields of therapy has such overenthusiasm occurred as in artificial heliotherapy. It is unfortunate that such a valuable therapeutic agent should be so lauded and misused that its true worth becomes discredited by many critical physicians. Professor Laqueur of Berlin recently paraphrased the indiscriminate use of the lamp when he said: "For some there are scarcely any contraindications—for them the artificial sun never sets."

The greatest field of usefulness for artificial light is when natural sunlight is not available, i. e., as a complement to sunlight on cold, cloudy or inclement days. The room should be warm when infants and delicate children receive treatment. The skin capillaries must be dilated, but chilling of the body must be avoided. The room temperature should not be below  $80^{\circ}\text{F}$ . An auxiliary heat lamp of the Sollux type should be in simultaneous operation to enhance the penetration of the rays. If the weather is cold, ample time should elapse before the child is permitted out of doors after a treatment, as sudden changes in temperature may cause chilling or loss of body heat whereby a respiratory infection may be precipitated. The eyes of the operator and patient must be protected throughout the treatment, the length of exposure must be gradually increased or the distance between burner and patient cautiously decreased. Technicians do not agree on the rate of increase. Some maintain that erythema and pigmentation should be avoided; others claim that the desired result of

an exposure should be a transient erythema which lasts but a few hours; others, that pigmentation should occur and the exposures gradually prolonged until the skin acquires a marked coat of tan. Overexposure may cause any or all of the symptoms enumerated under natural heliotherapy, and should be avoided.

By the aid of the Keller erythemadosimeter it has been found that the deposit of mercury on the inside of the quartz burner causes an appreciable reduction in the amount of ultra-violet ray emanation. This means that the efficiency of a burner decreases with use. Recent studies have shown that within six months of modern usage about  $\frac{7}{8}$  of the beneficial rays no longer leave the burner. European authorities now recommend that burner emanation be tested at least twice a year. This is seldom sufficiently emphasized. A simple but less accurate way to determine the strength of a burner and the reactivity of an individual before beginning a course of treatment is as follows: Place a sheet of paper with six half-inch perforations on the exposed abdomen, cover the rest of the body, and expose the perforations from one to six minutes. The number of minutes required to produce an erythema dose will give a rough estimate of the strength of the burner and the susceptibility of the patient. At least 15 treatments should constitute a course, preferable 5 treatments a week (omission on Wednesdays and Sundays), never less than three treatments a week.

Indications and contraindications for heliotherapy. The following systemic conditions are benefited by heliotherapy: tuberculosis of the bronchial glands, cervical glands, peritoneum, pleura, bones, joints or skin; rickets and tetany. Superficial conditions such as erysipelas, pyodermatoses like impetigo (especially of the newly born), acne, furunculosis, and chronic ulcers of the skin often heal after a few treatments. In the latter the action is doubtless mainly germicidal. Some clinicians report benefit in delicate, poorly developed children who get infections easily or who are slowly convalescing from infections.

Bronchitis, asthma, pertussis, enuresis, hay-fever and dry eczema are seldom benefited. Heliotherapy is contraindicated in most febrile diseases, especially in active pulmonary tuber-

culosis, also in most nervous disorders, especially in chorea.

#### SUMMARY

1. Heliotherapy has a definite but limited field of usefulness in pediatrics.
2. Artificial heliotherapy should be used only when natural sunlight is not practical.
3. Harm from chilling and overexposure must be avoided.
4. Heliotherapy should be resorted to as an aid in treatment only in those conditions that are benefited by its use.

### PREVENTION OF PUERPERAL INFECTIONS

HENRY F. LANGHORST, M. D.

ELMHURST, ILL.

Maternity is an event that, to the expectant mother, is more important than any athletic contest. It is a contest, a race or competition in which the physical perfection, assisted by medical skill, is pitted against the many pitfalls that block the path to the goal, a normal delivery and puerperium. Not many athletes enter a contest without proper training and preparation, for to ensure success the first requisite is to reach the highest degree of physical perfection. This can not be attained by one's efforts alone, one must have an advisor or a trainer. In maternity this factor is often overlooked and the advice of a physician is sought too late or after difficulties arise.

Every woman who is, or may become, pregnant, needs the advice of a skillful physician. The mere sending of a specimen of the urine to the office every month is not sufficient, frequent personal interviews and observation by the physician are necessary in order that he may guard the patient against the dangers that are threatening.

The physician often sees the pregnant woman for the first time when nausea and vomiting appear. This is the time to explain to the patient the necessity for frequent consultation and the institution of an intensive period of training, to reach the highest possible state of physical perfection. To reach this state one must insist upon dietetic regulation, sufficient and graduated exercise, exposure of the body to sunshine, sufficient bathing, and attention directed to the importance of normal function of the



bowels and kidneys, and to the eradication of foci.

The dietetic regulation is of great importance and must be stressed. The reasons for restrictions of diet are many; to preserve the teeth and supply proper bone food for the baby; to prevent obesity, hypertension, eclampsia, pyelitis and acidosis. The proper caloric values should be furnished but gluttony should be warned against. A normal diet as outlined by Sansum<sup>1</sup> is recommended; this balances the acid ash foods against the alkaline ash foods and a preponderance of the latter is to be desired. An excess of the acid type of food would lead to dangers of kidney irritation, pyelitis, albuminuria or acidosis. The acid ash foods also are deficient in mineral salts and vitamins which are so important. The alkaline ash foods such as vegetables, fruits and milk must constitute the greater part of the diet. Whole wheat cereals, bran and rye or whole wheat bread must be used. Eggs contain valuable mineral ingredients and with milk should be the chief source of protein. Raw vegetables and fruit must be used every day.

It is, of course, necessary to take the blood pressure on every possible occasion. One often finds pressure as high as 150/110 in young expectant mothers who have been injudicious in their diet. A pressure of 140 should be considered the high normal level and strenuous dietetic measures should be instituted to reduce it. That means reducing protein to the minimum, abstinence from tea, coffee, cocoa or chocolate, and salt restriction. Warm daily baths and good elimination from the bowels are helpful. The bowels should be regulated by diet, mineral oil or enemas.

Exercise should be insisted upon. The muscles must be trained to meet the strain of labor. An indolent life leads to atonicity of the muscles and may mean a lingering labor often jeopardizing the safety of mother and child and frequently necessitating difficult forceps delivery. Walking, calisthenics, proper posture and normal household duties yield sufficient exercise. Exposure of the body to the sun is essential.

It is of the greatest importance to the pregnant woman that she conserve and utilize to the fullest extent, the mineral content of her food. This is brought about by the fixation in the blood stream of the main salts, calcium, iron and phosphorus, by exposure of the body to ultra violet

radiations from the sun or from the quartz lamps, thereby preventing their loss through the bowels and kidneys. In the winter, spring and fall the ultra violet lamp should be used. This is an important preventive measure in the undernourished, underweight and anemic types; for one often sees tuberculosis, especially during the lactation period, develop in these women.

An important topic that is not much discussed is the relation of septic foci to puerperal infection. I have seen four cases of puerperal infection that seemed to follow focal infections. Bad teeth or septic mouths were present in all these cases. It is possible that a normal delivery might follow in one with such a focus, if there were no dystocia. But granted such a focus were present and the blood stream contained streptococci, or other pathogenic organisms, and that the patient was not properly trained for the ordeal of labor and that interference was necessary, such as application of forceps with episiotomy or laceration and subsequent repair, the resultant shock with the lowered vitality of the tissues and poor blood would make it easy for the pathogenic organisms to gain a foothold. After they are established in the tissues, whose resistance has been lowered, they are hard to eradicate. Three of my patients had a temperature of 99+ on their admission to the hospital, the other was not observed. One patient, a two-para, who had been threatened with miscarriage a few times and had two teeth with apical abscesses, had a normal delivery, no vaginal examinations had been made, but a chill developed four hours later with a temperature of 102 and she was sick for three weeks with fever. Her temperature when admitted to the hospital was 99.6.

Another case, a primipara, aged twenty-nine, presented herself for the first time at the eighth month, on account of swelling of the limbs. She had blood pressure of 170/110 and albuminuria. Her mouth was septic; she had about eight devitalized teeth and heavy deposits on teeth at gum margins, with retracted and swollen gums. A rigid diet, oral hygiene, catharsis and rest, brought the blood pressure down to 140/102 and a diminution of the dropsy. She was in poor condition for the ordeal of labor; her temperature on admission to the hospital was 99.4. A long, tedious labor was terminated by forceps delivery and the perineum was sutured. The temperature gradually increased and persisted in

an irregular manner for three weeks after which she made a slow recovery.

The third case, a primipara, aged twenty-five, had a history of acute pleurisy with effusion. She was anemic and underweight and presented herself at third month because of hoarseness. She had definite tenderness over right frontal sinus. Suspected T. B. but specialist diagnosed no tubercular condition. She was advised to report regularly for ultra violet radiations but failed to report and did not cooperate well. She had a somewhat prolonged labor but delivered spontaneously; a perineal tear necessitated six sutures. She developed a chill on the third day and showed no resistance to the infection and died on the ninth post partum day.

Another case, a three-para, cooperated well but did not have two abscessed teeth cared for. She was anemic but otherwise normal. Her temperature on admission was 99.6. She had a breech presentation that was slow and prolonged; the fetus had the cord around its neck and difficulty was experienced in getting its arms down. In spite of extreme asphyxia the child survived. Crede expression of the placenta was tried every ten minutes without avail. After waiting one and one-half hours, manual removal of an adherent placenta was done. No chill developed but temperature remained around 99.6 for three days when 102 was reached. It remained irregular for three weeks more.

All patients had pulse rate of disproportionate ratio compared to the temperature. Pulse rates ran 120 with a temperature of 101. All but one had diarrhea with some tympanites. No accumulations of pus were found.

We all are astonished at the successful outcome of the labor and puerperium in some of our cases with filthy environment. One sees many such cases and then wonders at the seeming inconsistency of these patients getting well while others with the best modern institutional care succumb to infection. I believe our modern technique deals effectively with exogenous infections, but more attention must be directed to those of endogenous origin.

I believe rubber gloves to be the biggest factor of safety to patients from dangers of exogenous infections. An elaborate plan of sterilization is not essential to the successful use of gloves. The hands should, of course, be scrubbed and the

gloves clean. After the gloves are put on, they can be sterilized by swabbing with pure lysol, alcohol or any effective germicide, and then rinsed with sterile water. This technique can be easily used by the country practitioner and fills his needs better than the old method of one sterile pair of gloves. It is impossible for a physician to keep his gloved hands sterile, when in attendance at a confinement, without skilled help. This plan makes it easy to do so.

More attention should be given to the endogenous source of the infections. The blood should be sterile and foci removed preferably before conception occurs. The teeth, sinuses, tonsils and other focal points should be investigated and treated if necessary. The blood should be made as resistant to infection as possible and in patients with focal infections, vaccines should help to increase resistance against the pus forming germs. Edgar<sup>2</sup> uses vaccines in puerperal fever and speaks favorably of their use. The opsonic index for the streptococcus should be taken in anemic and below par patients or those with focal infections and treatment instituted if found subnormal, or vaccines should be used empirically in these cases. The focal infections explain many cases of miscarriage where you have looked in vain for a positive Wassermann. The placenta will show infarcts that are caused by the focal infections.

It should be our aim and effort to see that the expectant mother approaches the ordeal of labor with blood fortified against the invasion of the pathogenic organisms and with tissues whose tone and resistance have been raised to the highest point of efficiency through the agencies at our command.

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#### LIPOID NEPHROSIS\*

WILLIAM H. HOLMES, M. D.

Associate Professor of Medicine, Northwestern University  
Medical School  
CHICAGO

The term nephrosis was first used by Muller to distinguish a type of kidney disease characterized by degenerative changes in the tubules. There are several forms of kidney degeneration which are etiologically, pathologically and clinically distinct entities. One of these forms is

\*Read before Chicago Medical Society.



characterized by lipid degeneration of the tubular epithelium. The term lipid nephrosis, suggested by Munk, is generally used to distinguish it from other degenerative kidney lesions. In this type of nephrosis the kidneys are larger and softer than normal. The surface is smooth and grayish in color and the capsule strips off easily. On cut section the cortex is wider than normal. Microscopically the changes are those of lipid degeneration of the proximal and distal convoluted tubules. The glomeruli are not obstructed although some may show lipid deposits. Lipoid nephrosis occurs very rarely in a pure form. Until 1922 Fahr had been able to study the kidneys of only nine cases. Osler referring to the large white kidney of chronic tubular nephritis, (lipoid nephrosis?) stated that he had had in his wards but 30 such cases with autopsy. Lipoid nephrosis is frequently mistaken for nephritis with results which are often disastrous to the patient. In referring to lipid nephrosis as a kidney disease it should not be understood that the characteristic symptoms are due exclusively to renal degeneration. Other tissues participate in the pathologic changes and contribute to the symptomatology. The clinical and chemical findings can not be explained satisfactorily on any other basis. It is unfortunate that there is no designation which indicates the importance of extra-renal factors in this as well as in other forms of kidney disease. The view that nephrosis is not primarily and exclusively a renal disease has been emphasized repeatedly by Epstein and others. The lipid type may exist without the occurrence of kidney failure as judged by commonly accepted standards.

The function of the kidneys is to eliminate urea, uric acid, creatinin and other end-products of protein metabolism; to assist in maintaining the neutrality of the blood by excreting chlorides, phosphates and other salts; and to assist in maintaining the proper concentration and volume of the blood by excreting excess water. This triple excretory function must be performed without permitting the escape of glucose and plasma colloids. Diffuse inflammatory disease of the kidney as well as some types of nephrosis often result in renal insuffi-

ciency as indicated by failure to eliminate water, salts or nitrogen. In lipid nephrosis the nitrogen concentration in the blood is normal; the output of water is in proportion to the amount available for excretion; the concentration of salts in the serum is normal and clinically at least acidosis does not occur.

Lipoid nephrosis is characterized clinically by an insidious onset and a chronic course. The patient at first complains of fatigue, lack of interest, lack of appetite and later of a gradually increasing edema. At first the edema is present only in the feet and ankles at the end of the day and in the lumbar region on arising in the morning. Later it is present constantly and becomes the dominant clinical sign throughout the course of the disease. The urine contains a large amount of albumin and casts of all kinds. It is highly colored and has a high specific gravity. The output for 24 hours is decreased. Examined under polarized light doubly refractive lipid bodies may be seen. Hypertension is absent and the heart does not become enlarged. Retinal changes are lacking. As a general rule the concentration of nitrogen in the blood is normal although a temporary increase may be observed following a rapid disappearance of edema. There is a moderate degree of secondary anemia and a marked decrease in the total amount of plasma protein. The decrease is principally in the albumin fraction. Blood cholesterol is increased while the blood chlorides are about normal. The rate of metabolism is from 15 to 25 per cent below normal.

*Case Report:* L. Z., a white man aged 32 years, was admitted to the Medical Dispensary of Northwestern University, December 11, 1926. He complained of edema of the lower extremities, scrotum, abdomen, back and face. He had had measles, whooping cough and an operation for acute appendicitis before the age of 14. At the age of 29 he had rheumatic pain and frequent sore throat. Removal of his tonsils gave complete relief from pain. Edema first appeared two months after the tonsillectomy. About one year later a diagnosis of nephritis was made on the basis of edema and albuminuria. A diet was prescribed from which meat, eggs, salt, vinegar, coffee and tea were excluded. His fluid intake was restricted to one quart daily. About eight weeks prior to his admission to the Dispensary he spent sixteen days in a hospital. The diet to which he had already been faithful for 17 months was again prescribed and sweats and catharsis

were used to reduce the edema. He was discharged improved, but within a few days the edema had recurred.

The positive physical findings on admission to the Dispensary were, marked edema of the legs, scrotum and lumbar region, a lesser degree of edema of the face and hands; palpable lymphatic glands at the angle of the jaw on each side and a tag of tonsil in the right fossa. The urine contained a large amount of albumin and casts of all kinds. It also contained a great many pus cells. Bacteriological examination showed the presence of staphylococcus albus. There was a slight secondary anemia, the red cells numbering 4,160,000. The negative findings included a normal retina and media; a heart normal in size, shape, position, rate and rhythm and a systolic pressure of 130. A blood Wassermann was negative. The renal pelvis were normal in size. On the basis of these findings the previous diagnosis of nephritis could not be accepted as correct. He was admitted to Wesley Memorial Hospital for further study. A diet containing 150 grams of protein, 150 grams of carbohydrate (later increased to 300 grams), and 50 grams of fat was prescribed. No sodium chloride was added to the food. There was no restriction of water, the patient's desire for liquids being allowed to govern the intake. A metabolism rate of minus 20.8 was obtained and 9 grains of thyroid extract daily was prescribed. On admission he weighed 182 pounds. At the end of the first week he had lost 7 pounds in weight and the edema was much less. Two weeks after admission he developed an acute sore throat and at once the amount of albumin in the urine increased. The tag of tonsil was removed and found to contain free pus. On discharge after 27 days' hospital residence he weighed 149 pounds. The loss of 33 pounds was accelerated by the use of 52 grains of thyroid extract during the first two weeks. Novasurol, ammonium chloride or other diuretics were not used. Despite this the edema had entirely disappeared at the time of discharge. The high protein diet did not lead to the retention of nitrogen. Following his discharge from the hospital the patient adhered as closely as possible to the prescribed diet and, although he has some edema of the ankles, he is able to work.

TABLE 1

Blood Analysis in a Case of Nephrosis. Figures represent mgs. per 100 c.c. of blood

	Normal	L. Z. on admission	1 mo. later	5 mo. later
Non-protein nitrogen. 25-35	35.7	35.6	32.8	
Urea nitrogen ..... 12-15	15.8	16.3	22.9	
Uric acid ..... 2-4	3.96	4.96	..	
Creatinin ..... 1-2	1.54	..	..	
Chlorides as NaCl...450-500	471.9	462.0	488.4	
Calcium ..... 9-11	..	..	9.8	
Cholesterol .....140-175	301.0	297.0	294.0	350.0
Lecithin phosphorus. 12-14	..	..	36.4	
Neutral fat .....600	..	..	610.	

The above figures show the characteristic increase in lipid substances and the normal nitrogen values. They also show that it is

possible for a case of lipid nephrosis to use a high protein diet over a period of months without clinically harmful effect. The concentration of lipoids in the blood is not a result of renal insufficiency, since under normal conditions none of these substances are eliminated by way of the kidney. Their abnormal concentration is probably an expression of failure on the part of the tissues to utilize their nutritive supply as in the lipemia of diabetes. In 1923 Claussen<sup>1</sup> reported the discovery of a lipid substance in the serum and urine of cases of lipid nephrosis and nutritional edema which had the power of rendering pyroxlin sacks permeable to albumin. He did not state whether this surface active substance exerted a similar effect on animal membranes. The experiments of Claussen were repeated by me using pyroxilin sacks and sacks prepared from the cecum of the sheep. Ordinary diffusion thimbles were found unsatisfactory. The sacks permitted the passage of salts and a nitrogen body giving a ninhydrin reaction but in no instance were they permeable to albumin. The concentration of lipoids in the serum leads to a lowering of the surface tension. Using the new tensiometer of duNoüy, my associate, Dr. C. J. Farmer, found the surface tension of the serum in this case of nephrosis to be 53.6 dynes. Distilled water at 23 degrees C gave a reading of 73.4 dynes per centimeter. Not only is the surface tension of the blood serum of nephrosis lower than that of normal serum but is also lower than the serum from cases of acute and chronic nephritis as shown by Leiter<sup>2</sup> using the original instrument of du Noüy which gives results slightly higher than the more recent instrument.

The concentration of chlorides in the blood and tissues is intimately related to the subject of edema. The introduction of sodium chloride into the body leads to temporary retention of water until the amount of salt in excess of the normal threshold is eliminated by the kidneys. If the kidneys are unable to excrete sodium chloride in a normal manner edema occurs. In the case of lipid nephrosis which forms the basis of this report the highest concentration of blood

1. Claussen, S. W.: J. Biol. Chem. 59: 45, 1924.

2. Leiter, Louis: The Jour. Clinical Investigation. 3:267, 1926.



chlorides was 488.4 mgs. per 100 c. c. of blood. During the first six days of hospital residence while the patient was on a low salt diet the average daily output of chlorides in the urine was 8.4 gms. The average daily output for the next three weeks was 3.59 grams. Despite the normal value for blood chlorides and the low chloride content of the urine it seems probable that the tissues had an abnormal affinity for chlorides. This was indicated by the fact that wheals produced by the intradermal injection of salt solution disappeared within two minutes.

The ability to eliminate excess water and to concentrate the urine are among the important functions of the kidney. It is difficult to estimate this function in the presence of edema. Table 2 illustrates the results obtained with a Volhard dilution and concentration test. The only conclusion which can be drawn from these data is that in this case the nephrotic kidney was able to secrete a urine with a very low specific gravity. During the concentration test the highest specific gravity reached was 1.020 although on other occasions urine with a specific gravity of 1.028 was voided frequently.

TABLE 2

Dilution and Concentration Test in Case of Nephrosis.  
1500 c.c. of water taken as rapidly as possible between 7 and 8 A. M. The diet being dry and no additional fluid being taken until the next morning.

Hour	Amount of urine voided	Specific gravity
8:00 A. M.	45 c.c.	1.015
9:00 A. M.	225 c.c.	1.002
10:00 A. M.	210 c.c.	1.002
11:00 A. M.	75 c.c.	1.006
Total for 4 hours	555 c.c.	
Rate of excretion per hour in c.c.		
1:30 P. M.	112 c.c.	44.8
3:30 P. M.	232 c.c.	116.0
4:30 P. M.	120 c.c.	120.0
6:00 P. M.	105 c.c.	70.0
8:15 P. M.	120 c.c.	60.0
1:45 A. M.	270 c.c.	45.0
4:45 A. M.	120 c.c.	40.0
7:00 A. M.	68 c.c.	34.0
Total for 20 hours	1147 c.c.	

Phenolsulphonphthalein Test		
Hour	Amount of urine voided in c.c.	Per cent of dye
9:00 A. M.	100	47
(Dye injected 8 A. M.)		
10:00 A. M.	65	25
10:30 A. M.	200	8
11:00 A. M.	340	5
12:00	500	3
		87

During the period covered by the above analyses no attempt was made to restrict the fluid intake. The diet was low in chlorides.

During the first two weeks a total of 52 grains of thyroid extract was given. Although the kidney of lipid nephrosis is functionally efficient in most respects it is defective in one respect in that it is unable to prevent the escape of blood colloids. The constant albuminuria results in a reduction of the serum albumin from about 92 per cent of the total serum protein to 40 per cent or less.

TABLE 3  
Urinary findings

Day	Vol. in c.c.	Sp.Gr.	Total N	Grams in 24 hours		
				N.P.N.	Albumin	Chlorides
3	2150	1.009	7.15	6.28	5.42	8.38
6	2400	1.018	13.67	9.15	28.20	8.56
7	2075	1.014	15.73	12.80	18.30	4.56
8	2050	1.011	19.50	14.45	31.60	2.87
9	1180	1.022	16.33	13.50	18.00	3.30
10	1045	1.024	18.10	15.81	14.30	4.84
11	1140	1.025	18.15	16.55	10.00	4.68
13	1075	1.026	19.35	17.35	12.50	3.12
16	1058	1.028	16.00	14.70	8.14	3.69
17	1015	1.026	16.38	13.91	15.43	2.54
19	780	1.028	13.90	12.60	8.14	2.57
24	670	....	9.50	8.86	4.00	5.10
26	695	1.022	5.26	4.40	5.36	3.48
27	1450	1.016	11.45	9.90	9.70	3.35

TABLE 4  
Protein Content of Blood in a Case of Nephrosis

	Albumin	Globulin	Fibrinogen	Total
	Gms per 100 c.c.	Gms per 100 c.c.	Gms per 100 c.c.	
On admission after 17 months of albuminuria. Treatment low protein diet .....	1.76	2.30	0.39	4.45
Treatment: High protein and low salt diet 1 month.....	1.84	1.75	0.54	4.13
Treatment: Same 5 months....	1.87	1.89	0.94	4.70
Treatment: Same 11 months...	2.40	2.00	0.40	4.80
Normal .....	7.76	0.41	0.24	8.41

It has been suggested that the loss of serum albumin is in part responsible for the presence of edema which is such a marked and constant sign of lipid nephrosis. That has not been true of the case under discussion. Edema is scarcely visible while the diet is low in chlorides. There are two reasons for prescribing a high protein diet for cases of lipid nephrosis: one is that nitrogen balance must be maintained; the second is that protein accelerates the rate of metabolism. To increase the rate of metabolism still further Eppinger and others advise the use of from 10 to 20 grains of thyroid extract daily. This appears to be an unusually large amount but it has been shown repeatedly<sup>3</sup> that patients with lipid nephrosis can tolerate very large amounts of thyroid extract over long periods of time, and that the increase in the rate of metabolism which it produces aids in the utilization of blood lipoids. The importance of maintaining nitro-

gen balance can not be over-emphasized. I have seen patients with nephritis whose muscles were hard and whose general condition fair, placed on a low protein diet and in the course of a few months transformed into wasted invalids. It is true that the course of treatment reduced the amount of albumin in the urine but it also reduced the amount of albumin in the tissues. The 31.6 grams of albumin lost by L. Z. on the eighth day of hospital residence was the equivalent of all the albumin in 1800 c. c. of his serum or of all the coagulable proteins in 700 c. c. of his serum. On the same day he lost 14.45 grams of non-protein nitrogen as a result of the breakdown of 90 grams of protein, making a total protein loss of 121 grams. The diet prescription for 150 grams of protein was, therefore, not excessive since it permitted storage of a small amount. Nitrogen balance could have been maintained on a smaller amount of protein but the specific dynamic action of the larger amount would have been sacrificed.

30 North Michigan Avenue.

3. Epstein, Albert: J. A. M. A. 87: (Sept. 18) 913, 1926.

## APPLIED RAILWAY SANITATION\*

S. C. BEACH, M. D.

Health Officer, Illinois Central System

CHICAGO

We who assemble here together should be very proud to have been born at the right time and to have acquired the proper education in the course of growing up to see and comprehend the birth of a new department of knowledge and to realize that its birth resulted from causes wholly necessary to the world's progress, evidences of which surround and astound us on every side.

We marvel at the progress of aerial navigation but we have equal cause and can marvel more understandingly at the great strides which are being made in medicine and we have providentially been permitted to be present at the birth of this lusty infant, "Preventive Medicine," which is growing so rapidly and demanding more of our time and attention each successive year.

We assiduously pored over our materia med-

icas and anatomical charts and with painstaking effort mastered the knowledge therein contained; we went forth into the world with our cases packed with medicines and our heads bursting with medical knowledge to relieve suffering and distress among our unfortunate fellow mortals and because we were so busy in the practice of our profession, the first whisperings of a new truth did not reach us all and we toiled on in the age old fashion.

Now the whisperings have grown to loud voiced proclamations and but few of us have not heard and realized that a new age in medicine has dawned. With infinite pains and accumulated experience, we have toiled ahead on the rocky road towards the heights of success, crowned with dazzling golden light and, looking backwards, wonder why this beginning was never made before.

Yet our knowledge of life and its ills is not in vain for with the ability to determine causation of disease we are able to give battle to obscure happenings never heeded in times past and by so doing prevent sickness in its very inception or even before its actual occurrence. Hygiene and sanitation are no more important than they were before but we began to realize their importance and guide our course thereby. Hygiene will, of course, have no place in this paper, dealing as it does in the care of the individual and therefore especially the province of the physician but sanitation, dealing with the environment of community, will be considered because it is constantly becoming more complicated and important as year after year laws are promulgated which direct us to do thus and so in order to obtain the best sanitary results.

There is no word more misapplied and misused than this word sanitation and one is apt to be confused and misled when contemplating the stately sanitary edifice which towers upwards in the clear light of knowledge and short-sightedly exclaim "how beautiful but how complicated."

Thinking observers immediately perceive that such an edifice must have a mighty foundation and upon looking for it, they perceive a rough and sturdy block of imperishable granite, immutable as truth itself, yet simply and clearly

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cut. This block, the corner stone of our sanitary edifice, is cleanliness.

It is the letter "A" in the sanitary alphabet without which it would be incomplete.

A certain railway official of high standing and long experience was told of the existence of certain unfavorable conditions prevailing in an office building and asked what should be done about it; his reply was brief and characteristic—"clean it up."

In one word he had voiced the fundamental truth of all sanitary work, "*Clean.*" He did not worry about how the cleaning was to be accomplished nor what materials were to be used, he wanted it cleaned and at once.

The question arises as to what agent is the best cleanser and we hark back to the wisdom of our forefathers and unanimously exclaim "soap." All sorts and makes of cleansers have been placed on trial and always we have come back to soap, which applied with a judicious admixture of water, gives us a fundamentally clean surface, the alpha and often the omega of cleanliness.

A soap with the least alkaline reaction, that is, as nearly neutral as possible, is best for use on highly finished or varnished surfaces and it has been found to be good economy to mix the soap and water in hundred gallon tanks with a faucet at the bottom, thus enabling the employe to draw a pailful of soap and water already mixed in the proper proportions. This saves wastage in the use of soap.

In order to ascertain what sanitary measures must be undertaken a careful system of inspection must be carried on and upon this inspection system and its records depends the success or failure of our efforts. Blanks for various forms of inspections with questions covering conditions investigated should be prepared and the inspection reports received on these briefed and filed. For its competitive effect locations inspected may be graded and graphs made of the results but it is to be carefully borne in mind that inspection presupposes knowledge on the part of the inspector of the location or apparatus which he is inspecting; without this knowledge inspection is a failure and a farce and had best be abandoned inasmuch as improper and incorrect reports only cause trouble for all concerned and necessitate reinspection and correction, which is expensive and unnecessary.

Another important feature of inspection is the ability and desire on the part of the inspector to make helpful suggestions to the employe in charge of the location inspected—to let them understand that the inspection is being made in order to make improvement and not merely to report conditions as seen. It is truly wonderful what a difference this idea of helpfulness, honestly carried out on the part of the inspector, makes in the results attained. Subsequent visits and inspections are rendered doubly productive of improvement and all because of the cooperation of the parties concerned.

The inspection report should terminate with recommendations for the correction of faulty conditions observed and such recommendations, when they include work to be performed, should be accompanied by an estimate. Now all this sounds dry and uninteresting but I am endeavoring to apply (as the title of my paper implies) sanitation in corporation work, where efficiency is absolutely necessary and where results are carefully observed and compared with previous conditions, where your figures are checked accurately and an improvement never undertaken without consideration by at least three different departments, all cooperative and interdependent.

Now I want to tell you about the railway sanitary code, the most important step in the progress of sanitation on the railroads ever taken. It is necessary to have a standard in the performance of all work, a mark to shoot at, in other words; the absence of such a standard was keenly felt by the railway corporations because there was lack of agreement between the state authorities and the railways as to the best means to accomplish the sanitary end. Through the efforts of a number of interested and experienced sanitarians such a standard was established and incorporated in a code known as the standard sanitary railway code. These specifications were made in agreement with the sanitary specifications of the various states with such modifications as were necessary to the proper operation of the railways and have been adopted by the American Railway Association and accepted by some forty-five of the states through which railways are operated and maintained. Before the adoption of this Code the railways were

constantly confronted with the task of meeting different state rulings and where twelve or fifteen states were traversed, I can assure you that the task of complying with existing state rulings was a most difficult one. Since the adoption of the Railway Sanitary Code, matters have become much simplified and greater progress and better cooperation have been attained.

In the application of sanitary principles much difficulty was experienced in the matter of drinking water supply in coaches operated on the various systems. You will all recollect stopping at a station and seeing a man enter the end of the coach with a bucket of water which he proceeded to pour into a receptacle with a spigot at its lower end. No one knew just where this water came from and the idea of carrying it in an open bucket gave no offense because such a method was customary.

We all used to drink out of the old tin dipper in blissful ignorance of any possible harm. Today witness the remarkable change which has taken place—all sources of drinking water supply are reported to the Government, a survey is made and samples taken; if both are satisfactory and in accord with established and printed standards, the Surgeon-General of the United States Public Health Service notifies the railway, sending written permission to use such water for drinking purposes. Further the receptacle into which the water is poured must be cleaned rigorously, the container in which the water is carried must be of a standard construction and still further, must be kept in a dust proof closet during the time it is not being used. And at once you ask, are these severe measures necessary and justifiable and I reply by saying that because of them there are men seated in this room who have never seen a case of typhoid fever—yes, a thousand times yes, are these severe measures justified but no one knows with what toil and travail these results were attained but he who has served in the front line trench and gone over the top in the sanitary battle.

There exists at present an unfortunate misunderstanding as to the limitations and usefulness of medical knowledge with regard to sanitation. Medical training gives its votary biologic knowledge of disease causation, inception and course together with treatment, the latter usu-

ally of a remedial nature. This is felt to be the strict limitation of the medical man in his relation to diseased conditions.

With a knowledge of this nature concerning disease the medical man is usually content, because such knowledge has only been attained by years of patient study and arduous experience. There is something more, however, to be considered in the elimination of faulty conditions or in planning prevention of causation and to fill this need there has arisen a new profession, called sanitary or health engineering. To illustrate: the medical man judges the ventilation of a certain room to be faulty and recommends bettered ventilation. Right there is where the sanitary engineer steps in and fills the scientific gap—he determines the contributory factors in the problem precisely and mathematically, figures the exact needs of the occupants of the room under investigation and determines just what and how much of it is needed to solve the problem. It is an engineering proposition and an engineer is needed to solve it and his education and training have fitted him for this especial purpose and in performing this task he is the ally of the medical man. Sanitary engineering may be defined as the art of directing the forces and activities of nature to the improvement and protection of public health and in the practice of sanitary or health engineering are included the problems of heating, lighting and ventilation together with housing, water supply, disposal of wastes, milk and food supply supervision and other activities.

In other words, the physician handles the biologic and the sanitary engineer the health engineering part of the public health work.

There is no interference, no overstepping of the boundaries on either side, a clear line of demarkation exists yet both work together for the betterment of public health.

Physicians should realize these facts and submit their problems to the health engineer for his handling.

And now comes the most difficult question yet encountered in the progress of preventive medicine, namely, the periodic examination.

In speaking of this boon to mankind as a difficult problem, I mean especially in corporation work where there are great numbers of



employees who are urged to avail themselves of the opportunity to have a complete physical examination and who, for various reasons, refuse. A great locomotive is inspected many times a year for possible defects and these, if found, are speedily remedied, yet man, with his infinitely more complicated machinery balks at such an inspection. It may be that he fears that something may be found wrong and is afraid to have the fact known. Just what his reason is for not willingly and happily submitting to such an examination is hard to determine but this much we know, that our employees will have to be educated up to this feature and by persuasion and example of their fellow workers made to feel that it is for their good and not an effort by their company to find out something which might interfere with continued relations.

The American Medical Association has issued an excellent book outlining the course of a complete physical examination together with printed blanks for the proper recording of results obtained.

In the consideration of applied sanitation on the railways it may not be uninteresting to recount briefly the history of the movement. Eighteen years ago the Illinois Central appointed a new chief surgeon who at once detailed an M. D. to act as Health Officer, this being as far as I know, the beginning of organized sanitation by any railroad company in the United States. Just when the Pullman Company started its sanitary department I do not know but it was about the same time, and its importance to that company is shown by the fact that their sanitarian has a sign outside of his office door which announces "Department of Sanitation and Surgery," thus telling the world what the Pullman Company thinks of sanitation by placing the word before surgery.

Seven or eight years ago the St. Louis Southwestern, usually called the Cotton Belt, engaged the services of a sanitary engineer whose success was such that he was appointed consulting sanitary engineer for the Rock Island and Missouri Pacific, both of which roads now also have their own sanitary engineer inspecting sanitary conditions over their respective systems. Other class one railroads have men who though nominally acting in other capacities, really look after sanitation—this because their roads have found it to be necessary and important. It will un-

doubtedly come to pass that every road in the country will soon have a department of sanitation, profiting by the example set by the above named companies. This is as it should be for the teachings of the old axiom about the ounce of prevention being better than the pound of cure was never better exemplified than in the present time and statistics amply prove this assertion.

In writing this paper I have suffered from that unusual circumstance in such work, a superabundance of material and my only difficulty was to choose illustrative fragments which might have a greater interest to this assemblage of physicians; so in looking over the long list of subjects untouched but important I am choosing malaria to bring this paper to its close. The Illinois Central has nearly one-half of its territory located in a malarious southern region, and the malarial problem of the South is also our malarial problem and one over which we have spent much time and effort. Early in the fight prophylactic quinine was distributed and screening of camp cars and buildings was made with good results. The various Southern States through which the road runs have inaugurated campaigns in which the railroad has played an important part. In the old days the builders did not hesitate to take large quantities of earth to build elevations and this left depressions called borrow pits which held mosquito breeding water for considerable periods of time. These pits had to either be drained or filled and where the pit was of too great an extent, the surface had to be covered with a film of oil. This work of fighting malaria still goes on and with increasing success by reason of a campaign of education carried on among the people, who unfortunately had considered malaria as the inevitable but who now eagerly join in the fight and take their standard treatment of quinine to its bitter and triumphant end.

And now I must close with a thousand things unsaid but which lie very close to the present and future welfare of the people; let us fight the good fight with undiminished strength and enthusiasm, confident that we are on the right side and laying a firm health foundation for the generations to come.

#### DISCUSSION

Dr. S. C. Plummer, Chicago: I am very glad to see this subject called to the attention of this section,

because I don't believe the public at large realize there is such a thing as the railway sanitary problem. However, there certainly is such a problem, as you all know after hearing Dr. Beach's paper.

I want to congratulate Dr. Beach on covering the ground so thoroughly in such a short space of time, and I can not add very much but approval to what he said.

He spoke about Dr. Crowder's sign, "Sanitation and Surgery." With me the matter is reversed, it is first surgery with me, but I have to be a sanitarian in spite of myself on account of the position I hold with the railroad. I have given much more attention to the sanitary side of it in the last two years than I ever did before.

A little matter of history perhaps on what has given this problem an impetus in the last ten years might interest you. There was no national association in any way connected with the railroads that considered this matter until the federal government took over the railroads during the world war and at that time a section on hygiene and sanitation was organized. It worked out so well that after the railroads were turned back to their various controls and the federal government released them, the American Railway Association decided to have such a section. The American Railway Association is an association of long standing and it is attended by representatives of nearly all the railroads in the country, who meet together for conference and recommending rules of practice about the various things of interest to the railroad. For instance, they have their operating section and their mechanical section, and so on. Any recommendation they make is not binding on the railroads but the railroads interested nearly always adopt them, either exactly as recommended, or they adopt approximately the recommendation.

Therefore, the American Railway Association in 1920 formed its medical and surgical section and they have taken up systematically some of the problems which Dr. Beach has spoken about.

Two of their best pieces of work have been the formulating of a railway sanitary code and the systematic examination of water used for drinking and culinary purposes on trains.

Dr. Beach spoke highly of the sanitary code, and certainly it deserves to be spoken of highly.

Dr. Crowder, who has been a sanitarian nearly all the time he has been in the practice of medicine, specialized in this and has been connected with the Pullman Company in this capacity, had a great part in formulating the sanitary code, but it was done in cooperation with the public health service, so everything in that code had from the beginning the approval of the surgeon general of the United States Public Health Service. That was a great advantage, and in addition to that, before this code was formulated, operating and railway men were called in, in conference, to see whether the provisions could be carried out in practice.

Heretofore, the great trouble with railway sanitation was that the ideal rules of sanitation were laid down without any inquiries as to whether they could be carried out or not. The problems in railway sanitation are peculiar to railways and some difficulties in applying them naturally arose. Dr. Beach spoke of the great difficulty that arose, because of the multiplicity of laws. For instance, in one state the railroad must supply drinking glasses, and in the next state it must not supply drinking glasses, and the next one it must, and the porter would be kept busy putting the drinking glasses in in one state and out in the next. Other laws were similarly hard to carry out, and, naturally, everybody thought it could not be carried out and couldn't be done anyway, and what was the use?

But now we have a code where the provisions can be carried out and they are being carried out.

As to the water examination, that was a difficult problem and in some states there was no authorized state, or even municipal, bureau. We had to make arrangements with private laboratories to do this.

Now the whole thing is coordinated in this way: The state board of health takes care of the examination. If there is anything wrong with the water supply they state what is wrong, and also recommend what changes are to be made to correct it. This goes to the surgeon general's office of the United States Public Health Service, and the report then is sent to the railroad giving permission to use the water or prohibiting its use or giving a temporary provisional certificate that will allow its use. Along with that, if there are any recommendations for improving the source they come back to the company.

In the company I represent these recommendations are immediately passed on to the operating department and I notice they take very prompt care of them, and it is only a few weeks until the report comes back that the condition complained of has been remedied.

There is one thing this sanitary code provided, and I think that is now complied with on all the railroads. That is in the water coolers, having the water and ice separate. You can have a good water supply in every way, but if you have ice carelessly handled, mixed in with the water, of course that offsets all the good of having your water in good condition, but with the separate container with the ice and water there is no danger from contamination of drinking water by the ice.

In the matter of periodic examination we need a little help in that in the way of educating employees to see that that is for their benefit, because it is for their benefit, but it is also for the benefit of the public, and, naturally, for the benefit of the railroad. A physically incompetent employee in the train service, especially on the locomotive is a matter of risk for the public to say nothing of the possibility of property damage to the railroad.

A leading neurologist of Chicago said to me the



other day, "I never can get on a passenger train any more without wondering how the brain of the man at the throttle is working." He got into that state by having so many cases where he found locomotive engineers with general paresis that he feels he would like to be sure just what the physical condition of the engineer is before he gets on a train.

Most people never thought of that and what it means to them personally and the traveling public at large. Sometimes these cases go along pretty far before any attention is drawn to them, but if we had periodic examinations they would be discovered earlier. Men with angina pectoris are also a menace. Many of these cases could be helped and their lives prolonged, and their usefulness, if their conditions were known in time and there would be a place where a benefit would come to the employee if we had periodic health examinations.

As Dr. Beach says, the employees are suspicious of this thing and think it is a means to eliminate them from their jobs. This is not true at all and the American Railway Association has recommended highly that periodic examinations be inaugurated on all railroads and two large railroads have this in operation—the New York Central for at least three years, and the Chicago & Northwestern for about a year. The employees find it is not objectionable and very few of them are dropped out of service on account of this periodic reexamination, but many are fitted for further service and directly benefited.

The malarial control is the big proposition in the southern states and Dr. Beach has told you about what is being done there. The Rock Island has had an active campaign, carried on by a sanitary engineer whom Dr. Beach referred to, and using the engineering means which he spoke of, largely drainage, and oiling, but also the systematic, prophylactic administration of quinine. This work was started before the big flood and some progress made. Of course the flood made the proposition that year very much more difficult, but even so we did not fall behind any and no doubt the prevalence of malaria would have been much greater if this work had not been carried on.

#### THE FUNDAMENTAL BIOLOGICAL FACTORS EVIDENCED IN THE MENTAL MECHANISMS OF THE HUMAN MACHINE\*

FRANK PARSONS NORBURY, A. M., M. D.,  
F. A. C. P.

JACKSONVILLE, ILL.

We live in the motor age, made possible by the development of research within the whole range of scientific inquiry. Modern transportation on land, sea and the air, owes its progress to the indefatigable endeavors of the research

worker, the experimentalist and the valiant, intrepid, daring of man. A cursory review of the applied sciences needed to make possible the flight of Lindbergh (including a study of the aviator himself), conclusively proves that this motor age is truly mechanistic and its record of acquisitions have become a part of the general knowledge of the world today. While this is true of current progress in mechanics and other applied sciences, combining the fruitfulness and rich promises of this motor age, yet, when we review the less enthusiastic study of the human machine, we find it obscured by reckless interpretations of speculative, rather than proved methods of science. On the other hand it is true that research in the field of medicine has brought about revolutionary changes that make it imperative to discard books written even ten years ago dealing especially with clinical medicine and its fundamental laboratory branches. But the human machine in its integrative mechanistic functioning and in its evolutionary progress is yet the subject of much aggressive discussion for the want of the employment of earnest methods of study; notably, the same intensive methods used in clinical interpretation, actually pursued and adequately interpreted. To understand the human machine, we resort to the physiological method which has earned, rightfully, its position in the field of scientific research and, too, without hypercritically exposing the shortcomings of the speculative arm chair Freudian philosophers. The physiological methods, therefore, have long since demonstrated their reliability and need no defense. The work of Crile and his associates, of Cannon, Pauval, Sherrington, Tilney, Mott, Watson, and others should enthuse workers in the clinical field of neuro-psychiatry, as proof positive of the place the biologic sciences should occupy in the interpretation of clinical problems. Especially applicable are the workings of the human machine when through disorder, we find faulty correlative changes, proving that every nervous and mental phenomenon is the result of manifest energy in the elements of the nervous system. Crile has proven, to the satisfaction of most clinicians, that man and other animals are bipolar mechanisms. And that the organs, the cells, the functioning parts, both in health and disease, in their substance, undergo

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chemical synthesis and have universal circulation of energy, that is, electrical conductive affinity in the generation and expenditure of nervous energy. Further, that the products of conversion of potential into work energy are acid in their reaction; that the acid-alkali balance is essential in transforming energy; that the nerve cells in mental functioning, as in thought formulating an idea, display the same chemical process as found in muscle after its functional activity. The display of energy is at the cost of highly organized matter, which undergoes degeneration or passes from a higher to a lower grade of being and the final retrograde products are similar in muscle and in nerve. The human machine has for its potential energy, nervous energy, generated by and stored in the brain and expended as work energy, when the demand is made. The correlative changes in nerve cells, to be noted after prolonged mental or nervous activities, explain the exhaustion, both in degree and kind, clinically noted in mild and extreme cases of mental disorder. As these facts can be proven by scientific methods demonstrable, without a doubt, why is it there is so much speculative, wild reasoning, even on the part of clinicians, who ought to know better? The energy, which is the basis of mind, may properly be compared with the gasoline in the container of the automobile, which is the basis of its motive power, awaiting the conversion from potential to work energy, through the intricate machinery of this modern Pegasus. The automobile cannot function without gasoline. The human machine cannot function without nervous energy (which is electrical energy) and necessary for the maintenance of normal life. The bipolar theory of Crile explains why universal connections among cells and organs and among dynamic units of the human machine, in its varied complexities, are essential to life and, in keeping with the fact, that all matter is electric in nature. All force is convertible into electricity, the universal force of creation, in living and non-living matter from the atom to man. Craig says, "Physiologically the living organism is a community of innumerable anatomically distinct unit cells, but biologically it lives and acts as a whole. Its behavior can be described or understood only in relation to its unity of individual existence, so much so, that mental function has been defined as the life reaction of the whole or-

ganism in distinction to the life of the separate cell units of which it is composed." In its psychology there is the same unity. The mind does not function apart from the body; the life of the organism is bound up with the lives of its constituent cells and is, according to Crile's bipolar theory, derived from them. Life is a matter of purpose, which is the satisfaction of the need of living tissue. How, then, are the multifarious needs of the constituent cells dealt with within the organism to permit unity of purpose, which alone, at any one instant, allows the reaction to environment to be effective? There are two methods, according to Craig, by which in a multicellular organism, such as man, unifying influence (interdependence) is established. 1. Continuity of the circulation of the fluids of the body. 2. The integrative action of the nervous system. 1. Continuity by the circulation of the fluids of the body and the rapidity of flow of the blood through the vascular system, make possible the differentiation of function within the organism through the constant profusion of blood fluids, so that each tissue element benefits by the work of the rest. The phylogenetic result has been the development of a complex organism, with anatomical groupings of its cells into organs of specific function. For example, the assimilation of oxygen from the environment, is carried out for all the millions of cells by one group situated in the lungs. And Crile's "kinetic chain" is another example of interdependence where the hormones of the organs of internal secretion figure in individual and in mass functioning. The interdependence of body cells has long been recognized, but it is not so generally realized that such interdependence necessitates uniformity of reaction throughout. Now, clinically every physician knows or should know, that great variations in the mental state are produced by disorder or lack of balance, metabolism due to lack of oxygen intake and more strikingly shown in the variations of functioning of the endocrine glands. Both are shown subjectively, in consciousness, as disorders of various kinds both in degree and kind, and overtly by the behavior or conduct reactions of the whole organism. The unity of response of the organism, including conscious mental state, is thus shown to be due to a great extent to the physical continuity of its parts effected by the circulating



fluids of the body. The type of response here is general and undifferentiated. Man is a motile organism (in this he differs from the vegetable organism) and requires an effector system to function in the very varied environments in which he finds himself. Therefore, he requires some method of distinguishing between external stimuli and of differentiating the mechanical actions of the effectors out into the environment.

2. Here, is where we note the second method of securing interdependence, the integrative action of the nervous system, with resulting unity of the organism, more complex in its development, and which establishes relationship between all parts of the organism, however distant and diverse in function, and yet will allow discriminative conduction. Sherrington, in his Yale Lectures—published in 1906, beautifully delineated the study of nervous reactions in the problems of function. He says “in the multicellular animal, especially for those higher reactions which constitute its behavior as a social unit, in natural economy, it is nervous reaction *par excellence*, integrates it, welds it together from its components and constitutes it from a mere collection of organs, as animal individual. The integrative action, he says, is different from the mechanical combination of the unit cells into a single mass, as in muscles, connective tissue in general, etc., and from chemical agency as in circulation of the blood, the endocrine glands, gaseous exchange, etc. The integrative action of the nervous system differs from the foregoing, in that its agent is not mere intercellular material, as in connective tissue, nor transference of material in mass as by the circulation; it works through living lines of stationary cells along which it despatches waves of physico-chemical disturbance, and these act by releasing forces in distant organs where they finally impinge. Hence, it is not surprising that nervous integration has the feature of relatively high speed, a feature peculiarly distinctive of integrative correlation in animals, as contrasted with that of plants, the latter having no nervous system in the ordinary sense of the word. The nervous system has highly specialized nerve cells which enable the most complex relationships to be set up between all the tissue elements of the body. The plasticity of the synaptic junctions which connect the different neurones allows an infinitely varied correlation of function, and that constant modification of ef-

fector response which is necessary in order that the organism may react effectively to the constant varying relationships in its own physiological state and to its constantly changing environmental situation. Since the nervous system is the physiological mechanism underlying that series of discriminative response, so scientifically delineated by Sherrington, Crile and others, and which have to do with the dynamic processes of life in which we include mental life, and since observations and experiment have shown that the subjective life (the consciousness), is in some way closely related to certain definite phases of nervous function, it is clear that the reacting capacity of the organism depends, to a large extent, on the structure and physiological function of the nervous system. In order to grasp the fundamental principles of mental function, it is, therefore, necessary to understand the broad principles that govern the nervous structure and its function. Crile has proven that the nervous impulse is electro-chemical, that unit cells of the organism as a whole are electric cells. Again, the clinical entity of life in mind and conduct proves that we cannot consider the body as a mere collection of mechanisms. The proper integration of these mechanisms is as important as the mechanisms themselves. While we accept the mental mechanisms as delineated by Freud, as a distinct psychological contribution to modern mental medicine, the facts of science prove the biophysical basis of mind, as not only the fundamental foundation of the evolution of the mind of man, but the very mental mechanisms themselves, account for his adaptation to the environment in which he lives and has his being. Especially is this true in meeting the excessive mental activity which modern life demands. The dynamic flux of nature wherein all things mingle into each other's being, good springing from evil and evil linked to good, emphasizes the fact that the world was not made for any one self-evaluer and no one can take himself too seriously or over-prize his being and doings. After all is said and done, if we reflect sincerely on the order of the universe, we find there is a mechanistic continuity of motion without end; a perpetual flux of the mighty tide of being and becoming through countless multifarious channels; there must be and is, a gradual transition from the most simple to the most complex, from reflex organization to mental organ-

ization and function. Man, as the crown of evolutionary change, with progressive development of brain and mental organization (so interestingly studied recently by Tilney) to obtain his dominant position in Nature, must have capitalized the toil and experiences of countless generations to fashion and perfect his mentality to present day human needs and uses. And yet, the mechanisms with which he operates the mind, are practically the same as in primitive ages. Man's mental progress has been to adaptations brought about by education of the plastic mind, and ingrafting inherited social acquisitions, habits, modes of thought, etc. Such processes, with a background of vital vigor, and keeping in mind that every element of the body, enters into thought and feelings, even into the most abstract speculations, the concordant and unified energies of constituent cells being the positive determinants of every function, mental and bodily, it follows that barren, indeed, must be the methods that would put forth speculations as to ultimate reality—call it what you may, psychoanalysis, or what not, and leave out the necessary physiological antecedents—ignoring these factors as basic factors in the study of life in mind and conduct. Mind, in its capacity for adaptation, is restricted by the structure of the organism which harbors it. Our conscious subjective life is inexplicably related to the complicated pattern responses which are the function of the evolved nervous system.

Consciousness is a fact that the student of living things must take into account. It is true "that consciousness is something which, perhaps, we are better able to experience than define." And yet we all know that it is dependent upon the integrity of the cerebrum the balanced maintenance of its blood supply, the quality of the blood stream and its freedom from toxic products. Truly, these essentials are examples of the two mechanistic methods by which the multicellular organism of man maintains the interdependence and unity upon which life depends, namely, continuity by circulation of the fluids of the body, the rapidity and flow of the blood stream and the integrative action of the nervous system. Craig well says: "There is only one way by which a man may reconcile his scientific attitude with the facts of conscious subjective life that are borne in upon him every waking moment. He must accept the

two groups of phenomena, physiological and psychological, not as two independent realities but as the manifestations in two distinct forms of one process; the life of the organism. As the conscious awareness, in its constant fluctuation, accompanies the continual variation of nervous activity with a faithful temporal simultaneity, the one can never cause or react on the other, for the simple reason that determinism demands a time interval between the phenomena which it relates; the determinant must precede the determined in time." This is in keeping with the laws of dynamics and proves how both are necessary to the living being and are interdependent. "Thought processes can no more be conceived to occur independently of neural activity than an neural activity without thought processes. The elaborate self-consciousness we possess is a product of evolution, just as is the complex central nervous system. The one is psychological, the other physiological and each plays its indispensable part in the life of the organism."

Disorders of the conscious experience need not necessarily be the fault of the nervous system. The circulatory system may be responsible through chemical or physical disorder of the blood and set up a perfectly normal reaction in the nervous system and produce an abnormal state in consciousness. This is seen clinically, in varied drug and other toxic agencies. But let these agencies continue to act, the nerve cells will show disfunctioning as in exhaustion and toxic delirium. The cells and fibers may undergo degeneration and possible destruction. Some individuals are very responsive to toxemias in general, while others show an idiosyncrasy for certain drugs, such as quinine belladonna, etc., and to exhaustive stress. Clinical rehabilitation is dependent upon the degree and extent of involvement of the neurone units. The nerve cells are not the only cells of the body involved in the toxemias, as shown by Crile. Again, proving the interdependence clinically of the mechanistic biogenic functioning of the organism. Another clinical demonstration of this phenomenon, familiar to you all, is the emotional reaction to be noticed in the increase or diminution of certain internal secretions within the body, notably, disorders of the thyroid gland, as in exophthalmic goiter, where the specific hormone floods the organism, affecting the nervous system. Here,



we notice anxiety, stressful states, from mild nervousness to profound psychoses, in which fear and its radiations are responsible for a host of mental perturbations. Cannon has explained this mechanism and Crile has applied his surgical technique, to meet this almost universal morbid mental experience, in surgery of the thyroid. These examples illustrate the fact that the validity of conscious experience is dependant upon the integrity of function and structure of the physiological apparatus. Inasmuch as there is profound disturbance of physiological activity in mental disorders in general (the biogenic psychoses group) and the psychoses of toxic and those accompanied by physical disease, in particular, it seems to me that the clinical problems involved require us to keep ever before us, as previously outlined, the fundamental biologic factors as basic in our explanation of the phenomena. Further, that our therapeutics must recognize the human machine, as a whole, is in disorder. The whole elaborate complex, mental and physical (psychological and physiological)—needs overhauling and rehabilitation. The physiological health of the nervous system suffers from exhaustion; a steady depletion of reserve energy. Its anabolism cannot keep pace with the constant katabolic mobilization; there is a red balance on the account of the organism as a whole. The capacity of the nerve cells and of the endocrine glands is inhibited, perhaps fails or, at least, there is inadequacy to meet the demands in generating and converting potential energy into work energy. The autonomic nervous system suffers and where anxiety is a part of the problem, the sympathetic branch of autonomic, "cuts a channel through which all perceptive stimuli tend to overflow." Thus is established a vicious circle which if not broken leads to complete exhaustion and death. Physiologically, this morbid mechanistic state is the progressive disturbance of metabolism, that results from this vicious circle involving the endocrine chain and the autonomic nervous system. The instinctive defense reactions, delineated by McDougal, are shown in the feeling tones (emotional states), and conditioned autonomic and metabolic changes incidental thereto. The physiological resultants of this vicious circle are primarily, first, exhaustion and secondarily, those of deterioration incidental to in-

volvement of the autonomic—endocrine systems. How are we to break through this vicious circle?

I am sure those of you who have followed my advocacy for years, of rest as the essence of treatment in all biogenic psychoses, toxic psychoses, etc., and the psycho-neuroses, will appreciate the rationale of the systematized rest, as paramount, in treating exhaustion wherever and however found. Now as this vicious circle is maintained by the presence of exhaustion, the human machine cannot function until it is rehabilitated, any more than your automobile can function when it fails to hit on all cylinders, or its function is inhibited by carrying an overload of waste products, in the form of carbon, in the cylinders. The human machine while it can be run in a service station for overhauling, yet, the element of complications possible in its intricate machinery, makes the question of diagnosis and correction of its faults, one of painstaking observation and prolonged treatment to re-establish the balance, renew the health which has so long been impaired by a long period of neglect. Rest is nature's method and is no experiment or fad even if some of our modern therapists are prone to side-track it, while psycho-analysis or some other cult usurps the right of way and attempts to pull the load. Again, traveling is a favorite prescription given by many uninformed physicians and friends. But experience, alas! proves the fallacy of such recommendations. Traveling aggravates the vicious circle, and, as an economic consideration, only adds to the expense, because sooner or later rest methods must be employed. Time is lost and the vicious circle more difficult to break through even by tentative travel suggestions. The clinical pathology of exhaustion is in evidence. The imbalance of the autonomic—endocrine chain, the loss of weight, sleep disorder, mental perturbation, singly or in mass, are certainly indications for rest. Take the biogenic psychoses, the treatment of which demands time and patience. The recoverability of these patients is based on rest; absolute rest in bed as the first requirement in all early and acute cases. To secure this stay in bed may require restraint if persuasion or peremptory orders fail. Here is where the personality of the physician and the nurse count for more than is given credit. Patience and forbearance, exercised in personal contact, win the battles as the confidence of the

patient is thus secured. Restraint as an adjuvant of treatment, humanely and judiciously used, is not the "bugbear" that the yellow press and uninformed individuals are prone to cry, from the front-page and on the street. We are treating the patient, not listening to hyper-criticisms. The secret of success in breaking the vicious circle is in first, finding out his physical ailments by a thorough inquiry into all disfunctioning and then in a proper understanding of the situation in which the patient finds himself. Argument and persuasion are futile to clear away delusions, or attenuate hallucinations, especially noticed in toxic complications. It is essential that we grasp the patient's viewpoint and to accept it for the time being; patiently awaiting for rehabilitation through rest methods to clear the machinery of the mind, through readjustments of the body organism as a whole. Let me emphasize that until rehabilitation has begun to be in evidence, it is better to ignore mental incongruities and thus give nature a chance. Here is where isolation comes in to contribute its share as one of the best possible adjuvants toward recovery. Isolation is misunderstood by physicians, the relatives and friends. It is really the secret of the success of Dr. Weir Mitchell's rest treatment. It is as rational and useful today as forty years ago, when I first become acquainted with its principles. The English and German physicians have accepted these principles and apply them more successfully today, than many of our American practitioners. A very recent English publication endorses the rest treatment and its application in early mental disease. It also discusses the very formidable problem of relations and their invariable desire to intrude upon the welfare of mental cases by visits. The visits of relatives and friends constitute one of the greatest difficulties the physician has to encounter in the treatment of mental disorders. In the first place, especially in public institutions, distrust of the motives of the institutional service in wishing to isolate the patient confirms their suspicions, that all is not right in the care of the particular patient. The facts are, that the patient is receiving more kindly and considerate care in the institution than he has received in the average home. Secondly, the harm of a visit is usually shown in revival of circumstances, or conditions that have contributed to the patient's illness. The distress

thus caused offsets all benefits accruing from hospital care and serves to prolong convalescence and perhaps permanently harm the patient. Then the busy-bodies, the cults, are apt to inject their profound knowledge to cause distrust of rational therapy, with resulting interference and harm to the patient's welfare. I always make it a practice when possible to explain the need, the whys and wherefores, etc., of treatment. Then comes the problem that the layman seeks the removal of the patient from hospital care as soon as acute symptoms of the illness have passed off and convalescence is beginning. Another point is that, since many patients appear much better in institutions than they really are, their relatives begin to think that they made a mistake in sending the patient away from home. Nevertheless, if they remove the patient they will soon discover their mistake, as all acute symptoms will return. The reason for this is not far to seek, keeping in mind that exhaustion underlies all acute mental disorders and in the biologic and toxic groups in particular, the human machine requires time for adequate adjustment. Recovery is slow, irregular and too, is varied by the type of personality of the patient. The longer and quieter, the more isolation is enforced, the convalescence is better, more progressive and permanent, because the clinical facts of exhaustion are met by strict adherence to time tried principles. The other adjuvants of rest, viz: diet, hydrotherapy, occupational therapy, re-education to social life and its activities, are all parts of the therapeutic needed in bringing the mental machinery back to adequate clinical recovery. All are necessary parts of the technique which experience has solved. All seek rehabilitation of the individual. In the acute biogenic and toxic groups where the most formidable mental disturbances are encountered, internal medicine enters to meet the varied complications which require intensive consideration. Internal medicine, as a part of clinical medicine, recognizes its responsibility in many and very varied problems in which mind in life and conduct enter to confuse and distort the usual intrinsic and special factors. Likewise, psychiatry feels the need of internal medicine as its ally, in bringing to a focus many of its most formidable clinical problems. Good nursing requires tactful understanding and interpretation of the individual behavior reactions of patients. The



ultimate recovery of patients requires more than following the routine of physical rehabilitation. In fact, in most cases other than organic and especially true of acute exhaustive cases, the conduct the the patient reverts to a very primitive and infantile type, and the recovery, re-establishment of social adequacy, depends on the re-education which the experienced humane nurse is capable of importing. Here is where occupational therapy comes in to stimulate and stabilize creative interest. But to stress occupational or any other kind of therapy, before the patient can grasp or possess creative interest, is to court a relapse, especially if exhaustion has been, which it usually is, a considerable factor in mental perturbation. My final plea is to recognize the fact that the mind of man is governed by biological ways and means. Mechanistic if you wish to call them such, as the physical factors in a mental problem are more formidable, overshadow and are conclusively more in evidence than the so-called psychological or psychogenic. Further, that mental disorder is a reaction of the whole organism (the human machine)—to which internal and external influences cause it to be exposed. And, that it is our duty to recognize these etiological factors early; recognize the disorder as a mental problem, approach it in a scientific way; be governed by rational therapeutics which modern medicine and surgery and modern neuro-psychiatry dictate. Break up the vicious circle early. Do not let it become organized. Bring the family into your confidence, educate them to understand their position and duty, as co-workers in the problem, in which all are concerned.

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#### EVERY DAY USES OF RADIUM\*

A. JAMES LARKIN, M. D.

CHICAGO

There is such a thing as every day use of radium. From this the inference may be drawn that radium is successful in a large number of cases. The discussion here will be limited to a few of the lesions in which radium has proven to be successful.

In carcinoma of the cervix radium has been used more often than in any one lesion. It is probably upon its action here that the reputation of radium has been built and its value estimated to date. Radium is essential in the treatment of carcinoma of the cervix. There may be some question as to that statement in early operable cases. Reports from various clinics show that the mortality is lower with radium even in early carcinoma than it is with any other method, due to the fact that there is no operative mortality to the radium. In advanced or moderately advanced cases there is practically no question but that radium is the agent of choice.

Radium is indicated in carcinoma of the cervix for several reasons. It is a simple matter to make an application of radium to a carcinoma of the cervix. It is easy to observe and to estimate the progress of the treatment and there are no organs nearby that suffer materially from the treatment. The uterine wall is thick, thus increasing the distance between the radium and other structures.

Several types of application may be used. The application of a capsule to the cervical canal is the most common. Interstitial application may be made by placing needles or implants into the mass itself. Tubes or applicators may be placed surrounding the cervix within the vagina thus employing cross fire. Occasionally rectal application may be made or large amounts of radium may be placed externally surrounding the pelvis.

The problem of applying radium before operation or after operation is one still to be solved. It seems unnecessary to place radium in the cervix and in three to five days do an hysterectomy. Probably intrauterine applications of radium have little effect upon the tissues beyond the organ itself. Post operative application of radium in the vault of the vagina might prevent a local recurrence that would otherwise appear. The statement is frequently made that after the uterus is removed there is no place to put the radium. Radium can be put almost anywhere.

The commonest method of applying radium to a carcinoma of the cervix is that of placing within the cervical canal capsules containing various amounts of radium and left there long enough to deliver from two thousand to five thousand milligram hours. The average dose would probably be from twenty-five hundred to thirty-five hundred milligram hours. The Stock-

\*Address before the North Shore Branch, Chicago Medical Society, November, 1927.

holm Clinic, which presents perhaps the best end results, employs such a dosage intracervically. The screen in that instance is a metal of sufficient thickness to filter out the beta rays. There are many variations in the amount of radium and in the methods of application in the different clinics of the world. There has been some attempt toward standardization but there is still much to be accomplished.

Recurrences in the vault of the vagina after hysterectomy are frequently treated with radium and the results are satisfactory. If it should happen that that is the only place the malignancy exists, then it is certainly worth trying.

There are two types of reaction to radium. The primary or immediate general reaction is characterized by malaise, nausea and vomiting and it appears while the radium is in place often continuing for thirty-six to forty-eight hours. The second reaction comes with the changes brought about in the malignant tissue and usually appears about the second or third week. Locally the reaction becomes manifest from seven to fourteen days after the treatment and is practically completed by the sixth or seventh week. It is sometimes difficult to distinguish between reaction to radium and the beginning of a recurrence. If the dosage was incorrect or the lesion improperly irradiated, a recurrence may appear as early as the sixth week.

The prognosis in carcinoma of the cervix must be guarded. Patients under forty years of age do not do well. The lesion frequently grows so rapidly that a wide removal or thorough irradiation seems not to cut the lesion off.

The second group of conditions where radium is used almost daily is that of uterine bleeding, excessive menstruation or metrorrhagia. Small fibroids producing excessive bleeding will be shrunk or arrested by an application of radium or the hemorrhage will be stopped so that the patient regains her health and becomes a good operative risk. One single intrauterine application of radium will usually take care of these cases. Formerly women in the child bearing period were given 400 to 500 milligram hours so as not to produce an amenorrhea. Now 1,200 to 1,500 milligram hours are given. With the smaller dosage in women under thirty-five the amenorrhea will last from twelve to eighteen months when menstruation will be resumed. There have been reported a considerable number

of normal pregnancies with healthy children following such dosage.

Radium is contraindicated in patients with acute or subacute adnexal infections or infections anywhere in the pelvis.

It is safe to say that from 85 to 95 per cent. of these cases are given permanent complete relief.

The third group of cases where radium is used almost daily is composed of epithelioma, leukoplakia, senile keratosis, etc. Benign conditions such as warts, moles, corns, papillomata and the like may be placed in this group since they are treated by approximately the same technique usually. Any given tissue can be completely destroyed with radium and that destruction fairly well limited. The technique of such radium applications ordinarily consists in the protection of the surrounding normal skin by means of lead foil one mm. in thickness allowing the beta rays to attack the lesion only. When the thickness of the lesion exceeds 2 or 3 mm. the addition of a considerable amount of gamma ray is necessary to insure complete destruction in the deepest part of the lesion. Flat un-screened applicators (glazed plaques) furnish the soft rays while additional radium may be placed on top of the plaque to supply the needed penetration. With superficial lesions full strength plaques applied for from one to three or four hours are sufficient. Deeper lesions or resistant benign growths require from 50 to 2 or 3 hundred milligram hours of the gamma rays.

The reaction in these cases is local only. It begins in five to seven days and lasts three or four weeks. Complete healing is the rule. Lesions having a diameter of 2 cm. or more heal slowly when the whole skin is destroyed. This is especially true of the lower limbs and in benign lesions. Malignant lesions practically all heal in six to eight weeks.

Ninety to 95 per cent. of all lesions in this group yield permanently. Recurrences usually mean unexpected resistance on the part of the lesion or faulty technique.

Cavernous hemangioma yields readily to the gamma rays from radium when applied about once a month keeping well under the erythema dose. The earlier in life these lesions can be treated the better. Babies can safely be treated



as young as three months of age. It is a mistake to delay treatment.

Many other lesions and conditions benefit greatly from the judicious and conservative use of radium. Cooperation and free open discussion between the radium therapist and the general practitioner or the specialist in whose field the lesion lies is most vigorously urged. Radium can be depended upon to do certain valuable things and its abilities should be known and employed in practically every specialty in the field of medicine. The better clinician the radium therapist happens to be, the greater good and the less harm will come from the daily use of radium.

25 E. Washington Street.

#### DISCUSSION

Dr. David S. Beilin discussed a number of pathologic conditions in which radium therapy is very important. The most common conditions are epithelioma of the lip, carcinoma of the tongue, carcinoma of the floor of the mouth and cheek, carcinoma of the antrum with metastases to the cervical glands. There is always a diversity of opinion as to which is the agent of choice in treating malignancy of the floor of the mouth or tongue or lips. The surgeon, of course, believes in surgery. The radiologists and radium experts feel that closer cooperation between the internists and the therapeutists would be of marked value to the patient.

In carcinoma of the breast with metastases to the axillary glands the same question arises. There is a marked difference of opinion as to the value of radium therapy in hyperthyroidism, toxic adenoma or goiter. Here again, is needed a cooperation between surgeon, internist and therapeutist. The agent of choice should be what seems best for the patient. In a patient with a basal metabolism of 40 to 60 and tachycardia, with impending thyroid crisis, a series of treatments with irradiation will make him a good operative risk.

There are a large number of other conditions treated every day in the week by individuals doing this type of work, carcinoma of the bladder and rectum, splenic myelogenous leukemia, Hodgkin's disease. The outstanding thing in regard to the treatment is that the distressing symptoms are relieved. A large number of these conditions, however, are not cured.

Dr. H. P. Saunders asked Dr. Larkin his opinion as to the advisability of using radium in young women with small multiple ovarian cysts.

Dr. A. J. Larkin, in closing, said the only condition in the ovaries which may be considered as complication to radium treatment is the so-called chocolate cyst which sometimes develop. He had had no experience in the treatment of young women with multiple ovarian cysts.

As to the action of radium upon the ovary, he believed that the results in uterine bleeding were not

due so much to the effect upon the ovary as to that produced upon the endometrium which is rendered incapable of menstruation for a certain length of time.

#### PARANASAL SINUS INFECTION IN INFANTS AND CHILDREN\*

S. M. MORWITZ, S. B., M. D.

Associate Attending Otolaryngologist at the Mt. Sinai and Lutheran Deaconess Hospitals

CHICAGO

Until recently very little attention was given to the paranasal sinuses in infants and children as possible foci of infection. The tonsils and adenoids have received the brunt of attack. Many medical men are under the impression that the paranasal sinuses in children are as a rule negligible and devoid of infection. Such an idea has become strongly tenable mainly on account of the difficulty in the examination and study of these sinuses in children. Until recent years, nasal sinus disease in infants and young children was diagnosed only when accompanied by manifest complications such as orbital abscess, abscess of the cheek or mouth. Owing to the fact that in infants and young children the bone surrounding the sinuses is cancellous and soft, not hard and dense as in the adult, involvement of the bone with pronounced complications is relatively more common.

G. A. Rees in 1847 first mentions empyema of the antrum following orbital cellulitis and fistulous opening between the antrum and orbit. Several similar cases were reported in later years. The pioneers in sinus infection in children were Onodi and Killian. In this country Emil Mayer and Coffin were the first to emphasize this field with Coakley, Skillern, Mosher, and Dean following.

In 1911 Hubbard emphasized the rhinitis of scarlet fever as due to sinus infection and that such was common in the acute exanthemata. The works of Oppenheimer in 1914 brought forcibly to the attention of pediatricists the importance of accessory sinus infection in children. Abt's recent system of pediatrics was the first text-book to describe paranasal sinus affections in pediatric practice.

The tremendous amount of work done by Dean and his co-workers at the University of

\*Read at the Clinical meeting of the Mt. Sinai Hospital Association, November 14, 1927.

Iowa has proven beyond doubt that paranasal sinus disease is a very important etiological factor in numerous diseases of infancy and childhood. Other observers have come to the same conclusions. Today, otolaryngologists and pediatricists consider sinus disease in children a distinct entity and realize that it occurs much more frequently than formerly supposed. The general practitioner more frequently sees these cases first so it is essential that he have a working knowledge of the pathology present to enable him to make a correct diagnosis or at least suspect the condition. Many of the children are brought to the physician not because of any nasal disturbance but because of some complication very remote from the original focus of infection, i. e., pyelitis, arthritis, G. I. symptoms. Heretofore, such conditions were treated routinely without the least suspicion that the nasal sinuses may be the underlying cause.

Consideration of the anatomical development of the paranasal sinuses is of great importance for a better understanding of infection in them. The accessory nasal sinuses are primarily evaginations of the nasal mucous membrane and develop from the middle and superior nasal meati except the sphenoid. The evaginating sacs by their joint growth and absorption of bone extend into the neighboring parts of the nasal wall and thus form the paranasal sinuses.

The antri or maxillary sinuses are always present at birth. From birth to the 8th year they enlarge at the rate of from 2-3 m.m. in each dimension. At birth the floor of each sinus is at about the level of the attachment of the inferior turbinate or almost on a level with the orbits with rudiments of the deciduous and permanent teeth below. With eruption of the teeth the floor descends to the position found in the adult.

All the anterior and posterior ethmoid cells are always present at birth. Their number vary from 8-15 on each side. Their size also varies. The frontal sinuses begin their ascent into the vertical plate of the frontal bone between the 18th-20th month. They are not very distinct or have any clinical value until about the 5th year. One or both frontal sinuses may be absent. The sphenoid sinuses begin to show as a recess about the 4th month and reach full development by the 10th year. They have no clinical significance until the age of 3.

Anatomically and typographically there are two series of sinuses: 1, those draining into the middle meatus below the middle turbinate include the frontal, antrum, anterior and middle ethmoids and agger nasi cells; 2, those draining into the olfactory fissure above the middle turbinate are the posterior ethmoids and sphenoids.

The pathologic changes in sinus disease in infants and young children are the same as those found in the adult. The stroma of the mucosa may be a dense fibrous tissue. There may be typical metaplasia or cyst formation in the mucous glands or infiltration of the mucous membrane with inflammatory cells. The periosteum may be enormously thickened and infiltrated with inflammatory cells. The bone may develop erosions and deposits of poorly calcified bone or spaces in the bone as result of absorption may be filled with fibrous tissue.

Acute rhinitis in infants is of importance because it may produce intranasal changes with a chronic discharge. The development of the accessory sinuses is greatly influenced by infection. By repeated and frequent examinations with the x-ray, Ingersoll and Carmody have demonstrated that infection retards the development of the paranasal sinuses. In other words, an underdeveloped sinus usually indicates chronic sinusitis.

There are 3 varieties of acute rhinitis to be found in the new-born: 1. *Coryza neonatorum simplex* which is due to air borne infection and which resembles the head cold in the adult. 2. *Coryza neonatorum blenorrea* in which the discharge is profuse and purulent from the onset and is caused by the leucorrheal or gonorrheal discharge in the mother's vagina at the time of birth. 3. *Coryza neonatorum syphilitica* in which the nasal symptoms are manifestations of the secondary stage of inherited lues. At an early period of illness it may be difficult to determine which type is present. It is usually found that when a healthy infant develops coryza after birth the symptoms appear later, are less severe and of short duration. In the blenorheic type the onset is within the first or second day of life with an abundant and persistent discharge of pus which sometimes contain gonococci, swelling of the nose and crusting of nostrils. Snuffles may be the first and for several weeks the only sign of a syphilitic infection. The



nose is drier and the thick discharge tends to crusting.

Jeans mentions an acute illness in infancy with symptoms referable chiefly to the gastrointestinal tract and occurs with such severity that death results if the condition is not relieved. Such an infant two months of age was referred to Dean's service and recovered promptly on treatment of the acute paranasal disease. Dean reports a two months old infant the cause of whose death two pathologists stated after necropsy was a nasosinus infection; also another infant aged six weeks which died while it was under treatment for an acute paranasal sinus disease. This infant had pus under pressure in every accessory sinus. The pathologist stated that sinus disease was the cause of death.

Many of the conditions which may result from infected sinuses in children may be found in the acute, subacute or chronic forms of sinusitis, the difference being one of degree.

1. Respiratory diseases—laryngitis, bronchitis, and bronchiectasis. The laryngitis and bronchitis frequently recur and are thought to occur by the inhalation route. Webb and Gilbert found a bilateral empyema of the maxillary sinuses as the most frequent sinus condition associated with bronchitis and bronchiectasis. Dennis, in analyzing 24 cases of bronchiectasis in his clinic, states that infection in the sinuses especially in the maxillary is so commonly found in bronchiectasis as to strongly indicate an etiologic relation. Mullins holds a similar view and gives the lymph drainage to explain it. In his experimental work he found the lymph drainage from the sinuses as follows: to the submaxillary glands and deep cervical nodes through the cervical lymph ducts into the great veins, the right side of the heart and the pulmonary artery to the lungs. Cone in Dean's clinic demonstrated to the writer a case of bronchiectasis in a child 10 years old associated with paranasal sinus disease which greatly improved when sinus treatment was added.

2. Nephritis and pyelitis. Jeans mentions a form of chronic interstitial nephritis accompanied by marked edema, diminished urine with large amount of albumin but without any change in blood pressure associated with a nasosinus infection especially the antrum. In 1923 Marriott and Clausen pointed out the relationship between sinusitis and parenchymatous nephritis

(nephrosis). The causative organism was a staphylococcus isolated from the sinuses. The albuminuria and edema disappeared on treatment directed wholly to the nasal condition with no attention given to diet or other treatment. Cases of pyelitis have also cleared up in similar way.

Gastrointestinal disturbances. These are usually so severe that they are considered the primary trouble. Anhydremia, anorexia, malnutrition and chronic digestive derangement are due to the ingestion of purulent discharges from the sinuses according to Byfield. Breuneman emphasizes certain abdominal pains due to sinus infection.

4. Diabetes. Burgess in Dean's clinic discusses eight cases of diabetes mellitus in which the paranasal sinuses were definitely involved. These children who displayed backward progress in their school work were not only greatly improved mentally after treatment of the infected sinuses but also required less insulin units.

5. Asthma. In these cases very brilliant results followed treatment of the infected sinuses. Lierle in Dean's clinic reports on a series of 20 cases of asthma referred from the pediatric department. Foreign protein tests gave negative results. The tonsils and adenoids had been removed. On treatment of the infected accessory sinuses the results were gratifying in most of the cases. Byfield reports 3 cases of asthma of long standing with frequent attacks which were markedly reduced after treatment of the nasal sinuses. Similar results have been observed by other investigators. The absorption of bacterial protein from an infected sinus may be an etiologic factor.

6. Arthritis and peri-arthritis. Of 20 cases of arthritis deformans treated intranasally by Dean, 17 were greatly benefited. Quoting Jeans: "To see a child with deforming arthritis associated with bouts of fever become comfortable and afebrile and to see function gradually restored as a result of treatment of sinus disease is impressive, especially when in former years one has been accustomed to see all efforts unavailing and the disease become progressively worse."

7. Head complications. (a) Otitis media and mastoiditis occur usually with the acute form of sinusitis. (b) Encephalitis lethargica has

been found associated with paranasal sinusitis. Montgomery has seen several such instances. Yates and Barnes report 23 cases of encephalitis lethargica in which they found inflammation in and around the sphenoids. (c) Meningitis occasional. The writer has seen one case. (d) Cervical adenitis is frequent. (e) Neuralgias (due to irritation of the nasal ganglia). (f) Eye complications such as phlyctenular conjunctivitis, retrobulbar retinitis, optic neuritis, orbital cellulitis and abscess.

8. Recurrent fevers of unknown origin. Dean reports several cases of recurrent attacks of fever with no demonstrable cause. Treatment of the infected sinuses present stopped further recurrences. Cases of cyclic vomiting and acrodynia have been reported as benefited by paranasal sinus therapy.

**Symptoms**—In acute sinusitis the symptoms are so characteristic that the diagnosis is readily made. We find fever, restlessness, irritability, poor appetite and a tickling cough. Within the nose are to be seen profuse mucopurulent discharge anteriorly and also postnasally on patient gagging, swollen turbinates covered with discharge. The alae and upper lip may be excoriated and mouth breathing is the rule.

In chronic sinus infection discharge may not always be found in the nose but crusting just within the vestibule is common. There may be a peculiar twang to the voice, hoarseness, coughing on lying down or a dry, unproductive cough, sneezing in the morning on arising with or without nasal discharge, lack of energy, backwardness in school, loss of weight and appetite, some anemia and palpable cervical lymph glands.

**Diagnosis.** There are 3 prominent symptoms in chronic paranasal sinusitis: 1. nasal discharge, 2. nasal stoppage, and 3. below par physically. If one or more of these symptoms remain after removal of the tonsils and adenoids paranasal sinus infection should be strongly considered. In a closed empyema of a sinus no discharge may be found in the nose. In infants nasal discharge may not be noticed if it is postnasal. If a discharge found in the vicinity of an ostium of a nasal sinus is wiped away and reappears in a few minutes, sinus disease is present because the nasal mucosa cannot produce secretion so quickly. This is especially true after shrinkage of the turbinates. Repeated examinations may

be required before a diagnosis can be established.

The x-ray is the most direct means of establishing a definite diagnosis. By it the presence or absence of a sinus is made and any difference in both the density and contour of the cells is noted. The nasopharyngoscope is of value in older children who will permit its use and in small children while under an anesthetic. Anterior rhinoscopy is unsatisfactory in most children while posterior rhinoscopy is impossible. Trans-illumination of the sinuses is unreliable. The diagnosis of maxillary sinusitis is confirmed by endonasal puncture, aspirating and culturing. The diagnosis of sphenoidal infection is obtained by sounding, aspirating and culturing.

In the differential diagnosis one must consider, 1. nasal or postnasal obstructive lesion, 2. nasal rhinolith or foreign body in the nose, 3. atrophic rhinitis, 4. infection of the nasal mucosa without sinusitis, 5. syphilis of the nose, 6. tuberculosis of the nose.

**Treatment.** The treatment of nasosinus infection in infants and children is a difficult one on account of the age of the patient and should only be undertaken by a rhinologist. Hospitalization is essential. Surgical drainage must be established followed by a prolonged and tedious after treatment. Sometimes nasal irrigation, suction and argyrol instillation are sufficient. Along with the surgical procedure these patients should receive a diet high in fat A vitamins as indicated by the experimental work of Amy Daniels, Lambert, and Judkin. Proper hygienic conditions must not be overlooked. According to Dean and others about 80% of the chronic paranasal sinus infections clear up after the removal of the tonsils and adenoids.

#### CONCLUSIONS

1. Paranasal sinus infection in infants and children is an established entity and occurs at any age.

2. The paranasal sinuses may act as foci of infection in conditions remote from the original foci.

3. These little patients are frequently brought to the physician for relief of a condition far removed from the nasal sinuses which may be the infective source.

4. The paranasal sinuses should be considered and studied in all diseases of unknown origin.



5. In order of greatest clinical value are the maxillary sinuses, ethmoids, sphenoids and frontals.

6. The focus of infection may still be in the sinuses after removal of the tonsils and adenoids.

Lastly, if this paper attracts more attention to this phase of focal infection in childhood it has served a useful purpose.

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## THE MCKINLEY TEST FOR EPIDEMIC ENCEPHALITIS LETHARGICA\*

HAROLD S. HULBERT, M. D., F. A. C. P.

Associate in Neurology, University of Illinois

CHICAGO

The etiology of epidemic encephalitis lethargica is unknown and the theories about the etiology are in conflict with each other. About four-fifths of the American men believe with Rosenow of the Mayo clinic that it is caused by a certain strain of green streptococcus. About one-fifth of the American men believe it is due to a virus, a certain kind of herpes virus. In Europe the proportions are reversed; only about one-fifth of the men believe it is due to a streptococcus and about four-fifths believe it is due to a virus but think it is not related to the Leviditi virus.

Dr. Earl B. McKinley, while at the Pasteur Institute at Brussels, Belgium, when working in Bordet's Laboratory, having been sent there by the National Research Council, Washington, was

able to infect rabbits with herpes virus. Dr. McKinley continued this work while at Columbia and is now at the University of Manila in the Philippines having been sent there by the Rockefeller foundation. We are fortunate in having some of Dr. McKinley's material with which to work.

I have here to present to you the brain of a rabbit which died three and one-half days after being injected with an emulsion of the brain of a rabbit which died from inoculation with this virus. In other words, this virus has been kept alive by passages from one rabbit to another. The brain is preserved in 50 per cent. glycerin.

In this small sealed tube, I present a coarse pink granular powder which is similar rabbit brain substance, the tissue having been dried in a cold vacuum using the same technique in preparation that is used with the spinal cords of rabbits in preparing rabies vaccine. This dry powder, or one may use about a gram of the brain substance from the glycerin solution, is put into suspension in salt solution, and when filtered until clear is the antigen for what I call the McKinley test.

The filtering of preserved brain or dried brain is technically difficult. It is best accomplished by macerating the tissue with a little salt solution, diluting 1:50, centrifuging, filtering through coarse filter, and then filtering through celite. Celite is a diatomaceous earth procurable in pound lots from the Central Scientific Company, Chicago, and a sample of it is in this tube, a very light gray powder. A suspension of celite is poured over the filter to make it denser before the once filtered supernatant fluid from the centrifuge as filtered.

In these two flasks are solutions of antigen. The one which has some cloudiness has been centrifuged and then filtered through ordinary coarse filter paper. The other which is clear as water has in addition been filtered through celite on filter paper. The latter is the one used in this test.

This clear water white solution of antigen containing the E. E. L. herpes virus is added to an equal amount of spinal fluid. Usually one cubic centimeter of antigen and one cubic centimeter spinal fluid are added together and mixed. The mixture is incubated for three hours at 37° C., and then placed in the ice box over night. A fine light gray precipitin is formed in cases of

\*Read before University of Illinois College of Medicine Faculty on January 19, 1928, Clinical Scientific Meeting, at the Research and Educational Hospital, Chicago.

E. E. L. (epidemic encephalitis lethargica) and slightly heavier gray precipitin is formed in cases of multiple sclerosis. All other spinal fluids heretofore tested show that no precipitin is formed. This precipitin is so slight and difficult to see that it is best read in a dark box. I herewith present you three test tubes in a dark box with slits on each side of the test tubes the box contains: one shows the grayness of the multiple sclerosis reaction and is so labeled, and the other which is water white is a case of encephalitis associated with meningitis following otitis which followed scarlet fever.

*Incidence of This Disease.*—This disease is now pandemic in America, but there are more cases in some communities than in others. In Wisconsin about one out of every two thousand of the population have E. E. L. and with several hundred needing institutional care; whereas, in Rhode Island there have only been five cases of this disease diagnosed as such requiring confinement in Butler Hospital. There has been no laboratory test to aid in diagnosing this condition. Clinically some cases have been erroneously diagnosed E. E. L. and in many cases the diagnosis of E. E. L. was not established. The McKinley test seems to differentiate it from all other conditions except multiple sclerosis, and it is likely that multiple sclerosis and E. E. L. are related diseases. This test has not been tried yet on post mortem spinal fluids in cases of E. E. L., multiple sclerosis, or paralysis agitans, nor has it been tried on post mortem suspension of brain, spinal cord, or sympathetic ganglia in any of the three diseases just mentioned.

This antigen is not yet being made on a quantity production basis. In order to check on our work on confirm or dispute it we have sent bits of antigen to clinical men and to laboratory technicians at Harvard, Johns Hopkins, University of Wisconsin, Philadelphia and New York.

If ultimately working with this virus a serum is developed (and it is too soon to speak of that at any greater length) then this diagnostic McKinley test will be needed to ascertain what patients should have specific serum therapy.

#### CONCLUSIONS

The McKinley antigen for diagnostic spinal fluid test in cases of epidemic encephalitis lethargica appears to be specific, whether there is

used an emulsion of rabbit brain preserved whole in 50 per cent. glycerine to preserve the E. E. L. herpes virus, or whether the brain is preserved by being dried in a cold vacuum.

Further work on this material by other workers is being done, and until their work is reported the test can not be regarded as established.

This antigen is not yet made in quantity amounts.

It is probable that multiple sclerosis and maybe paralysis agitans also are clinical forms of epidemic encephalitis lethargica.

Diagnosis of E. E. L. on clinical findings alone is not sufficiently accurate, as some cases are erroneously so diagnosed and as some other cases are erroneously mis-diagnosed "Not E. E. L."

This herpes virus antigen for E. E. L. is the basis for further research towards evolving a specific therapeutic serum.

Research institutions and foundations or councils, favored by private endowments, are more productive of advances in science than commercial hospitals.

185 N. Wabash Avenue.

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#### SLEEPING SICKNESS VICTIMS STUDIED WITH MOVIES

Washington.—Motion pictures now aid in the solution of some of the medical problems caused by the prevalence of encephalitis lethargica, sleeping sickness, in the period since the world war.

At the meeting of the American Neurological Association here Dr. S. P. Goodhart of New York City projected a film made under the direction of himself and a group of colleagues showing some of the extraordinary types of involuntary movements of patients, mostly children, suffering from this little understood disease. By running the pictures ultra slow, the grimaces and contortions of the patients can be studied and knowledge of symptoms of rare cases can be disseminated to large numbers of physicians.

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#### TWINS CALLED SAME BIOLOGICAL PERSON

Washington.—Identical twins are biologically the same even though they are physically divided into two individuals. This is the novel twin theory expressed by Dr. J. M. Wolfsohn of San Francisco and Dr. S. A. Kinnier Wilson of London before members of the American Neurological Association here.

The specialists described four sets of identical twins each pair of which suffered from the same form of organic nervous disease. One set developed diabetes at the age of fifty-two and both died of acute apoplexy at the age of fifty-nine.



## ORGANOTHERAPY

Such is the glamor shed over these glands by zealous enthusiasts and by commercial exploiters that we are apt to assume a much greater knowledge than we really possess.

Of the great number of endocrine products on the market, those of known potency in substitution therapy are (1) thyroid and thyroxin; (2) insulin; (3) parathyrin (Collip).

Of known potency as pharmacodynamic agents in conditions other than those due to disturbance of the glands in question are products of the medulla of the adrenal gland (epinephrin, adrenalin) and products obtained from the poster lobe of the pituitary gland (puitrin, pituitary liquid, hypophysin).

There are very favorable reports of other potent agents developed in animal experimentation. One of these is from Evans, Smith and their associates at the University of California, who have secured an extract of the anterior lobe of the hypophysis which is protein free and sterile and which has caused a marked gigantism in rats when injected intraperitoneally. Allen and Doisy of St. Louis have demonstrated an ovarian hormone from the liquor fo fo??ruli of hog ovaries.—From "Notes on Endocrinopathies," by T. P. Sprunt, M. D., Baltimore, *New York State Journal of Medicine*, July 15, 1928.

## ONLY GOD CAN MAKE A TREE

I think that I shall never see  
A poem lovely as a tree.  
A tree whose hungry mouth is pressed  
Against the earth's sweet flowing breast;  
A tree that looks at God all day  
And lifts her leafy arms to pray;  
A tree that may in Summer wear  
A nest of robins in her hair;  
Upon whose bosom snow has lain;  
Who intimately lives with rain,  
Poems are made by fools like me,  
But only God can make a tree.

—Joyce Kilmer.

First Co-ed (noticing sign in the library): "Only Low Talk Permitted Here."

Second Co-ed: "Fine, now I can go on with the story I was telling you."—Oklahoma *Whirlwind*.

Dentist—Now, I am not going to hurt you at all, so just—

New Patient—Cut out the professional chatter, old man. I'm a dentist myself.—*Answer*, London.

## Marriages

EDWIN JEAN BLONDER to Miss Beatrice Byrl Provus, both of Chicago, September 4.

SETH EDWIN BROWN, Evanston, Ill., to Miss Lydia Joy Lacey of Chicago, June 30.

MAC HARPER SEYFARTH, Freeport, Ill., to

Miss Dorothy D. Smith of Sioux City, Iowa, July 11.

ROSS EDGAR HUNT to Miss Marie-Louise Witbeck, both of Belvidere, Ill., September 20.

## Personals

Dr. Guy H. Jacobson, Taylorville, has been appointed county physician, it is reported, at a salary of \$10,000.

Dr. Arthur J. Rissinger has been appointed health officer of the village of Lake Bluff.

Dr. Andrew M. Harvey, LaGrange, has been elected president of the Knox College Alumni Association for the ensuing year.

Dr. G. Henry Mundt, Chicago, addressed the Kane County Medical Society at Elgin, September 12, on "The Social Aspects of the Practice of Medicine."

Dr. John W. Hopkins, for several years a member of the staff of the Hinsdale Sanatorium, Hinsdale, has resigned to accept a similar position at the Glendale Sanatorium, Glendale, Calif.

Dr. Martha Anderson, South Bend, Ind., has been appointed medical director of the Adams County Tuberculosis Sanatorium, Quincy, effective October 1.

Dr. William K. West, who has been surgeon in the mines of the Copper Range Company, near Calumet, for twenty-three years, has resigned and will move to Hinsdale, Ill.

Dr. Arthur J. Cramp, Chicago, Bureau of Investigation, American Medical Association, addressed the surgical section of the Wayne County Medical Society, September 25, on "Quacks and Nostrums," and previously broadcast over station WGHP.

## News Notes

—During the last year the Chicago Medical Society conducted thirty-two scientific programs, seven of which were presented by out-of-town guests.

—The Morris Hospital, Morris, recently laid the cornerstone of its new building. The hospital was founded in 1906 by a group of physicians.

—Although convicted by a county court in June of practicing without a license, S. G. Brown, a chiropractor of Princeton, was arrested again in August, it is reported, and charged on

forty counts with violation of the state medical practice act. He was fined \$250 and costs at his criminal trial in June. A new trial was denied and his attorney gave notice of appeal to the supreme court. The counts in the new information before the court represent, it is said, violations of the medical practice act since Brown's previous trial.

—The University of Chicago has arranged to give a series of public lectures on Thursdays, at 6:45 p. m., at the Art Institute, Michigan Avenue and Adams Street, on the general subject of "Medicine Through the Ages." This service is a continuation of the service to the public proposed by President Harper at the time the university was organized. Tickets for the course of lectures are on sale at University College, room 1100, 116 South Michigan Avenue, or at room 202, Cobb Hall, University of Chicago, they are not on sale at the Art Institute. The medical course for the autumn quarter will be as follows:

"Hippocrates and Galen," Dr. Morris Fishbein, October 4.

"Vesalius," Dr. Basil C. H. Harvey, October 11.

"Harvey," Dr. Anton J. Carlson, October 18.

"Sydenham," Dr. Franklin C. McLean, October 25.

"Paracelsus," Dr. Fishbein, November 1.

"Lister," Dr. Dallas B. Phemister, November 8.

"Paré," Dr. Harvey, November 15.

"Koch," Dr. Esmond R. Long, November 22.

"Behring and Roux," Dr. Charles P. Miller, Jr., December 6.

"Pasteur," Dr. Ludvig Hektoen, December 13.

—For the first time in years, the city commissioner of health says there has been a distinct increase in the number of cases and deaths from diphtheria in Chicago. In eight months of 1928, there were 292 deaths among 2,877 cases, a fatality rate of 10.1. The increase in deaths has been relatively much greater than the increase in cases. A similar experience is being reported in other communities and countries. There has been no outbreak of diphtheria during the year in any special group and no evidence of a common factor of distribution, but rather an increased dissemination of the disease throughout the city. The commissioner appeals to the phys-

icians to assist in lowering the mortality rate from diphtheria by immunizing children under their charge, especially those between 1 and 10 years of age, by means of toxin-antitoxin. The department of health will not immunize of its own accord, it is said, until the physicians have had an opportunity to do their share. Toxin-antitoxin may be had free of charge at room 707, city hall.

## Deaths

JOHN C. AUGUSTINE, Batavia, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1876; formerly bank president; aged 77; died, June 8, at the Community Hospital, Geneva.

WILLIAM ALOYSIUS BENNETT, Chicago; Georgetown University School of Medicine, Washington, D. C., 1895; a Fellow, A. M. A.; aged 55; died, August 20, of acute myocarditis.

RICHARD W. BOVEE, St. David, Ill.; Hahnemann Medical College and Hospital, Chicago, 1894; formerly county coroner and mayor of St. David; aged 61; died, August 6.

JOHN E. CLINTON, Whittington, Ill.; American Medical College, St. Louis, 1896; aged 64; died, August 31, at the home of his daughter in Benton, of carcinoma of the liver.

PETER CRAWFORD, JR., Chicago; Hering Medical College, Chicago, 1913; aged 43; died, July 12, of meningitis.

RUSSELL JOSEPH ERICKSON, Chicago; Loyola University School of Medicine, Chicago, 1926; aged 30; died, June 24, at Hot Lake, Ore., of lobar pneumonia.

ROBERT COOPER FULLENWEIDER, La Salle, Ill.; Rush Medical College, Chicago, 1896; a Fellow, A. M. A.; on the staff of St. Mary's Hospital; aged 58; died, August 10, of cerebral hemorrhage.

FRED HARRISON GLASCO, Alto Pass, Ill.; Loyola University School of Medicine, Chicago, 1917; aged 39; died, July 17.

KARL S. HUMMELAND, Maywood, Ill.; Jenner Medical College, Chicago, 1908; a Fellow, A. M. A.; aged 66; died, August 14, at the Oak Park (Ill.) Hospital, of heart disease.

FRED DAVID JACKEY, Chicago; Denver and Gross College of Medicine, Medical Department, University of Denver, 1907; past president of the Clark County (Wis.) Medical Society; aged 59; died, June 14, of cerebral thrombosis.

COLONEL MANFRED JOHNSON, Harvard, Ill.; University of Michigan Medical School, Ann Arbor, 1875; on the staff of the Peck's Hospital; aged 74; died, June 24, of nephritis.

JOSEPH THEODORE SPECK, Chicago; Rush Medical College, Chicago, 1897; aged 58; died, March 12, of myocarditis and cerebral hemorrhage.



# "The Line Test" In Infant Feeding

*I*F medicine had been born a complete science; if the law of variation could be suspended, it is conceivable that the sum and total of human knowledge could be encompassed in a single volume, the science of medicine could consider its conquests complete and its responsibilities for further research ended.

But this is not the case. Exceptions constantly appear, the old order is found to possess its limitations, necessity, the mother of invention, provides another and still greater urge. So finality is always in the offing—the last word is never spoken.

It was the recognition of the law of variation that prompted the assertion that each infant is a law unto itself and feeding must be adjusted to its individual needs. Even then, exceptions arose, they still arise and from these necessities, progress in the art of infant feeding and science in the preparation of infant diet materials emerges.

Resources are valuable only as they are assembled to serve greater and ever varying ends. To exercise his own resources to their fullest extent, to enjoy the selective principle with the utmost freedom, the physician demands a latitude in the choice of dietary materials at his disposal, just as infants demand a wide variation to suit their needs.

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# Illinois Medical Journal

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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 325

### ORIGINAL ARTICLES

Ureteral Stricture. *Budd C. Corbus, M. D., Chicago* . . . . 341

Clinical Observations of Gonorrhea in the Male. *Leon M. Beilin, M. D., Chicago* . . . . . 345

Spontaneous Cerebral and Meningeal Hemorrhage in Young Adults. *LeRoy H. Sloan, M. D., and Chas. L. Bidwell, M. D., Chicago* . . . . . 350

Toxemias of Pregnancy. *John Osborn Polak, M. D., Brooklyn, N. Y.* . . . . . 352

Physiology of the Stomach and Duodenum. *John D. Koucky, M. D., Chicago* . . . . . 357

Investigation of the Sterile Couple. *Iroing F. Stein, M. D., Chicago* . . . . . 359

Diagnosis and Treatment of Nervous Dyspepsia. *Lee D. Cady, M. D., St. Louis, Mo.* . . . . . 364

Membranous Colitis Due to Rectal Gonorrhea. *William A. Marshall, M. D., Chicago* . . . . . 368

Surgical Correction of the Crooked Nose. *Samuel Salinger, M. D., Chicago* . . . . . 368

Movable Kidney. *Lewis Wine Bremerman, M. D., Chicago* 373

The Eye in Relation to General Diseases. *Meyer Wiener, M. D., St. Louis, Mo.* . . . . . 377

Treatment of Gonorrhea in Some European Clinics. *J. S. Grove, M. D., Chicago* . . . . . 381

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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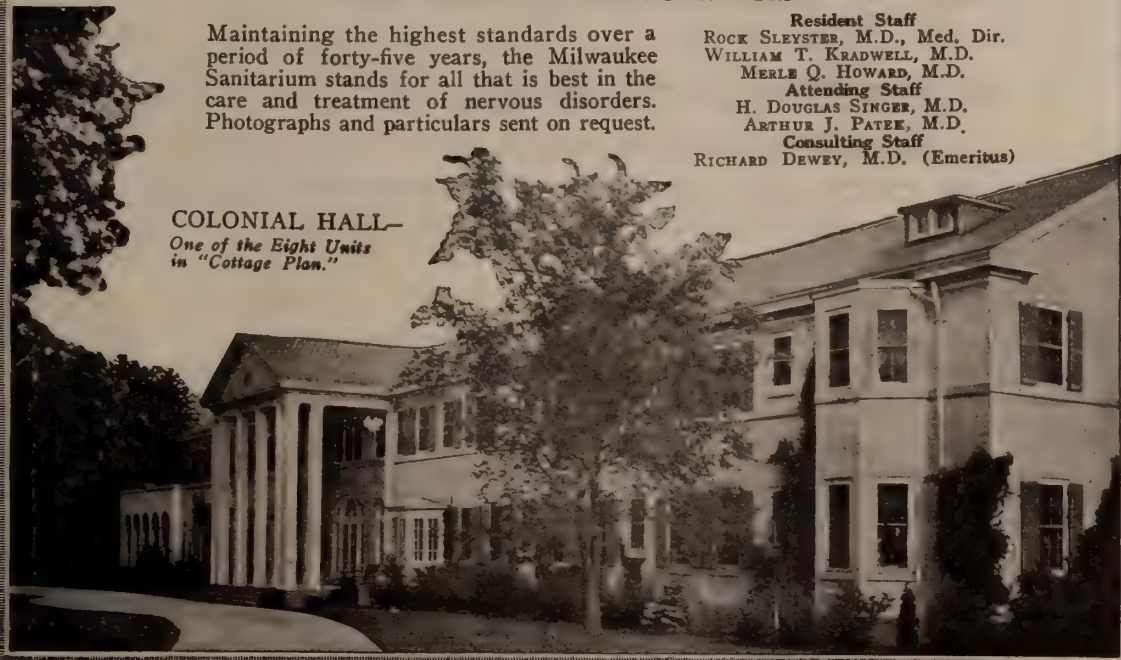
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# ILLINOIS MEDICAL JOURNAL

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## Editorial

### LEPROSY A VANISHING DISEASE

Leprosy continues to hold first place, in the lay mind at least, as the most terrible plague that devastates mankind. Though a comparatively rare disease in the temperate zone, yet tradition and citation combine to keep leprosy's terrors alive and virile in the imagination.

The medical profession welcomes any palliation of this frightful curse upon mankind. While a panacea may never be found yet anything legitimate that tends to develop towards such a godsend is always seized upon by science.

Upon the desert of despair of hundreds of thousands of sufferers, the hydnocarpus tree stands as the olive twig to the travelers in the ark. Oil extracted from the dried fruit of the hydnocarpus tree is the present dependence of the British Empire Leprosy Relief Association. This organization contends that this oil may be anticipated as the medium for stamping out, within the next decade, the plague of centuries.

India is accredited with the possession of a large proportion of the 4,000,000 lepers in the world.

In Africa, according to Sir Leonard Rogers, the extent of leprosy is held to be "appalling." As Sir Leonard has passed the last twenty years of his life there in leprosy research, this statement is of interesting import together with his finding that the "native negro recognizes the disease much better than the medical man."

Claim for this statement is made from discovery that although the African tribes are always raiding each other, and taking slaves, that "if a captive has a single spot of leprosy no native will touch him."

Sir Leonard is further encouraged by the results of news of the cure. Rapidly increasing numbers of natives come for treatment by the medical missionaries. According to Sir Leonard, in three months the British Empire Leprosy Relief Association sent out 100,000 doses; last

year there were 350 patients in Nigeria, and this year 840, and by the end of this year under treatment in Uganda it is expected there will be 2,000 lepers.

Though at first only advanced cases came to the attention of the doctors, out-patient treatment is given to those coming in early stages of the disease. "Whenever a new case is found everyone in that house is examined at least bi-yearly for five years. This precaution has permitted clearing up of about 80 per cent. of early cases before they have reached the infectious stage."

A new process of extraction of the oil is being perfected reducing the expense of manufacture by eighty per cent. Further widespread planting of the *hydnocarpus* tree is being considered,—indeed the campaign has begun,—so that there will be no diminished supply of the oil.

---

### THE INCREASING CANCER DEATH RATE

Cancer proceeds steadily on its triumphal death rate. American optimism and courage, however, keep up what must eventually be a victorious fight. Statistical study of the mortality records of 119 American cities are breath-taking, but not altogether disheartening. Based upon such a study comes the statement from Dr. Frederick L. Hoffman that "the cancer record for 1926 is a dismal indictment of the failure of modern efforts to check the ravages of this dreadful affliction."

Dr. Hoffman is an expert statistician. Statistics, however, are nonmalleable; science and research are malleable, fluid and progressive. In time there is every reason to hope the exact status of cancer and its traits may be so isolated and explained that foundation for the elements of prevention and of cure may arise overnight.

This in the face of Dr. Hoffman's statement, "the vast amount of laboratory research on the one hand, and of cancer propaganda on the other seem to have had no measurable effect upon the cancer death rate. The enormous sums of money expended on cancer research seem thus far to have yielded not a fragment of evidence of real value toward the control and cure of the disease."

The grain of salt that must be taken with this pessimistic report is that possibly these sta-

tistical findings may have been made too early after the increases in propaganda and in expenditure of which Dr. Hoffman speaks. Interest deepened in the cancer situation, much of the stigma removed and a clearer recognition of conditions set forth, is it not probable that many cases are now diagnosed as cancer that previously and analogously had been more euphemistically spoken of both by practitioner and patient? Undoubtedly up until the last decade many a death from cancer was set down otherwise on the death certificate, and in perhaps far too many instances erroneously diagnosed, especially in obscure cases, wrongly named in the mind of the doctor himself. Cities always yield large cancer statistics, as it is natural to send cancer patients to cities for treatment, and often, when not referred they go of their own accord seeking aid.

It is definitely admitted that about thirty per cent. of all cancers are curable in the early stages. Surgeons annually report an increasing number of checked or cured cases of cancer. Not a village, certainly not a township, but what if a true census were made, could produce cases of cancer arrested by surgery or affiliated means.

Raised limit of racial longevity, of course, find the country with an increased number of persons who have attained "cancer age." To offset this there is both increased knowledge of surgical procedure and more general appreciation of the possibility of cancer, a realization that like vice cancer presents more than one face to its prey and the rescuers thereof.

---

### THE CAUSE OF CANCER. THIS TIME FROM IMPERFECT PRODUCTS OF DIGESTION

All new theories deserve a hearing, with adoption regulated to follow only thorough investigation.

Dr. James B. Murphy of the Rockefeller Institute of New York City now holds that cancer is due to a ferment within the body rather than to a virus. He advocates that the cell proliferation in cancer is due to imperfect products of digestion or to some ferment stimulating excessive cell production. In the *London Daily Mail* of August 20, Dr. J. A. Shaw Mackenzie wrote to say that for years he has been directing all his research towards maintaining just such a theory. For twenty years, so Dr. Mackenzie



writes, he has associated cancer with ferment action but rather with defective action of the ferments of the pancreas and liver than to the direct action of the ferment.

Dr. Murphy, who was associated with Dr. Peyton Rous in 1912, in the production of a series of chicken tumors transmissible by filtered extracts and which formed the basis of the investigations of the Englishmen, Dr. Gye and Mr. Barnard, declared that he had succeeded in producing a protein fraction which caused tumors in fowls with great regularity and which might be regarded as the essential agent. In short, he claims that cancer is not caused by a virus as believed by Gye and Barnard, but by a ferment, that is to say, that the disease is produced within the body and not by an outside agent. Dr. Archibald Leitch of the Cancer Hospital, London, conducted experiments on similar lines to those of Dr. Murphy and came to like conclusions. However, there seems to be doubt as to the novelty of Dr. Murphy's discovery.

The view has been repeatedly expressed by Shaw Mackenzie that the cell proliferation in cancer may be due to either failure or upset of normal ferment action or to the presence of unusual enzyme or ferment action. Shaw Mackenzie, also, unlike Murphy, does not wholly rule out the possibility of a virus being concerned in the causation, but he does claim to be the pioneer in suggesting that cancer had to do with enzyme action.

---

#### GEORGIA WILL PUBLISH STATE HISTORY OF MEDICINE

The Medical Association of Georgia confronts the same task as that begun by the Illinois State Medical Society as a commemoration of its seventy-fifth anniversary.

Some years ago the A. M. A. asked for such action on the part of the different states. Georgia is about the twelfth to fall in line.

Dr. Allen H. Bunce, 139 Forrest Ave., N. E., Atlanta, secretary-treasurer of the association, is receiving data in case any of our readers have any Georgia data that would be of assistance.

As the Atlanta Journal, July 27, 1928, remarks: "Material forwarded to Dr. Bunch, secretary-treasurer of the association, will be carefully preserved, it is announced, and will be duly returned.

"A state whose annals are as rich as ours in noble leaders of this profession certainly should encourage the writing of its medical history. One of the great figures of colonial and revolutionary Georgia was Dr. Lyman Hall, of the Midway settlement, a signer of the Declaration of Independence and a tower of strength for patriotism. One of the immortals of the world of science is Dr. Crawford W. Long, who first demonstrated the power of anesthetics in surgery. One of the finest spirits of American literature was Dr. Francis Orray Tickner, author of *Little Giffen, of Tennessee, Virginians of the Valley*, and other rare poems. Many another honored name would shine from the pages of the proposed history. And many questions concerning our economic and social and political past would grow clearer in the light of such a book, for the path of the physician winds through all things human.

"The Medical Association of Georgia is heartily to be congratulated on having undertaken so important a labor of love. The Journal bespeaks for it the generous co-working of all who can aid, and wishes it abundant success."

---

#### HOSPITAL CARE HAS NOT INCREASED IN COST IN PROPORTION WITH OTHER NECESSITIES OF LIVING

The following editorial from a recent issue of the *Chicago Daily Journal* is extremely illuminating.

Are modern hospital rates excessive? The bureau of statistics of the labor department at Washington has just completed a survey of hospital conditions in the United States and has reached the conclusions that the cost of getting well has not risen in proportion to other living costs.

The maintenance expense of four representative Chicago hospitals was taken as a basis of comparison with the rates charged the public. It was found that the average cost to the hospital per day per patient was \$2.83 in 1913 and \$6.65 in 1926. Yet the average charge for a ward bed had but doubled, being advanced from \$2 to \$4, while the increase for private rooms was only 33 per cent. The average price increase to the public for all hospital accommodations was but 66 per cent., as compared with increased mainte-

nance costs of 135 per cent. A similar investigation among representative Pennsylvania hospitals showed that the charges to the patient had grown by 88 per cent. since the days before the war, while the institutions themselves were facing budgets 123 per cent. greater.

Efficiency in hospital management has cut short the stay of the average patient by three days, or from fifteen days in 1916 to twelve days in 1926, thus balancing the average cost of illness. A patient can now secure, at practically no greater expenditure, the same accommodations he enjoyed a few years ago during a much longer period of convalescence.

While the hospitals have been raising their rates considerably less than 100 per cent., educational costs have risen by 207 per cent. since 1916, the appropriations in cities for health and sanitation have been advanced 156 per cent. and the budgets of charity organizations are 114 per cent. greater than ten years ago.

The hospital faces a dual problem. It is a semipublic institution, with a certain obligation toward the community. This it strives to meet by an immense amount of charity work and often by adjusting its rates to fit the patient's pocketbook. At the same time it should pay its way. The public's duty is to cooperate in recognizing sickness costs as legitimate items of household expense and providing an emergency fund with which to meet them. The appropriation for sickness in the average family should be \$100 a year, the federal survey shows.

---

#### SCARCITY OF PHYSICIANS IN RURAL COMMUNITIES IS NOT A WOLF AT THE DOOR, BUT A RAMPANT EVIL WITHIN. AND BOTH PUBLIC AND PHYSICIANS MUST CO-OPERATE TO COMBAT THIS SITUATION

Alarm felt by the rural population over the increasing shortage of available medical men is discounted by a certain percentage of economists who bring forward figures to assert that increased efficiency of transportation facilities keeps in proper ratio the decreasing numbers of medical men in rural districts. In fact, this contention proved more than a passing point of argument at the Minneapolis session of the A. M. A.

Casuists dwell upon the item that "Figures can prove anything." Sometimes, it must be confessed, the tendency of such proof is to achieve fatal results.

Truth is that the present cost of medical education, coupled with other involving economic factors, has brought about such an impasse between medical needs and medical supply as may easily be duplicated later, even in the larger communities.

Because the National Grange is the most drastically affected now by this dearth of medical men in the vicinage of its members, to this question, the National Grange is giving earnest and anxious attention. Coöperation has been promised and will be given, by the A. M. A. Facts are stubborn and the stubborn fact remaining is that this dearth of rural doctors is a symptom of a cause that is not going to be confined to any one locality, rather than a cause itself of circumscribed and isolated evil.

The plain, old-fashioned doctor who was the family confidant and the family cure-all, and the very savior sometimes of the home itself, fell by the wayside long ago in cities and large communities. Lay dictation and lay interference stepped in and before he knew it the general practitioner in metropolitan walks found his place usurped by endowed foundations and community welfare work.

Such socialistic invasions of the medical profession as have really brought astounding statistics to the eyes and ears of the most conservative and scientific and conscientious members of the profession arise in a way from the complete displacement, without competent substitute of the self-sacrificing pioneer, known as "the family doctor."

All over the land quacks and charlatans use this magic shibboleth to "put over" their nostrums and noxious practices. Why? Because "the old fashioned family doctor" held a place in the hearts and a niche in the works of men that has never been filled by anybody else. His departure from community life leaves a gap that must be filled and which it devolves upon the medical profession to fill in a way that is at once competent and scientific.

Says the Dean of one large medical school: "It is quite evident that the day of the old fashioned family physician, who received his pay



in axehandles and an occasional kind word of appreciation, has disappeared. The demands of the public today necessitate certain changes which cannot be made without financial return.

"There has never been a time within recollection when people in certain country districts did not have to go some distance to secure a physician. There is a disposition at present on the part of all of us to expect immediate service, and while we may not notice the change, it is more widespread than we realize.

One of the officers of the American Medical Association remarked that the cry about the scarcity of country doctors was not a new one. He said that the same plaint was made at the first annual session of his association, in 1847, when members present stated on the floor at the meeting that as they rode on their way through the country to Baltimore they observed that there were no physicians in the rural districts, while more than twice as many as were needed were to be found in the towns and cities.

"The growing tendency towards specialization was also mentioned in the letters received, together with the heavy financial outlay required in securing a medical education.

"With one or two notable exceptions, the medical leaders appealed to could see no way out of our present difficulties and had no solution to offer for the shortage of country doctors," says Fred Breuckman, Washington representative of the National Grange.

Further he says:

"The memorial adopted by the Grange makes it plain that the organization is not advocating any lowering of medical standards. But those who are in favor of a reform in medical education feel that what is required is more practical instruction which may be acquired in less time and with an expenditure of less money than under prevailing conditions.

"To the lay mind, it is most heartening to find that it is the opinion of many physicians of unquestioned repute and the highest standing that present medical education is not producing the most resourceful practitioners for ordinary service. In the opinion of these physicians it is producing practitioners who are dependent on hospitals and laboratories, while these facilities, according to authoritative medical opinion, are necessary in hardly more than 10 per cent. of illnesses and accidents. It is in the care of this

90 per cent. of illnesses and accidents for which independent, resourceful physicians are necessary that the rural communities are most in need."

While these comments from a lay organization directly feeling the shortage of the general practitioner are not of course applicable as a blanket appraisal of the situation, there can be no argument as to the facility with which these citations evoke serious, even anxious, thought.

The chain store octopus that eats up the small man in the small community must inevitably, through its own nature and the general scheme of natural progression, in time destroy also the small man in the large community. What is occurring now in medical economics in small communities must necessarily through cumulative concentration and centralization at no far distant date occur also in large communities. The process of elimination thus begun and well on its way can play no favorites, be no respecter of communities and means the practice of medicine by endowed foundations and tax supported institutions.

This, of course, is state medicine, the curse of scientific advance and ultimately the death knell of medical initiative, progress and efficiency. This means an ultimacy of no service to the general public whether rural or urban.

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## NOTICE

Members wishing to give papers before the section on medicine must submit their name and subject at once to the undersigned or to Dr. N. S. Davis, 952 N. Michigan Blvd., Chicago, Chairman of the Section on Medicine.

The papers must be submitted not later than January 15, 1929.

Signed. FRANK DENEEN, M. D.,  
Secretary Section on Medicine.  
Bloomington, Ill.

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## MEDICAL ADVERTISING SOLICITOR WANTED

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## DEAN IRVING S. CUTTER APPOINTED A MEMBER OF MEDICAL HISTORY COMMITTEE

Doctor Irving S. Cutter, dean of the Medical School at Northwestern University and a well known authority about medical historical matters, has accepted a membership in the Committee on Medical History of the Illinois State Medical Society. Engaged now in the completion of Volume II History of Medical Practice in Illinois, Doctor Cutter takes the place of Doctor C. M. Johnson who was killed in a recent accident. Doctor Cutter, who is nationally known, is busied at present in several biographies notably Ephraim McDowell, J. Marion Sims and other American celebrities appearing in international abstract of surgery. Doctor Cutter is a distinct addition to the personnel of the committee.

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## WOMAN'S AUXILIARY NEWS AUXILIARY SUGGESTIONS

There are many reasons for a Woman's Auxiliary to the Medical Profession. Of course the social side is a very pleasant consideration for through the activities of the Auxiliary there will be established a closer relationship and better understanding among the physicians' families. Though I believe the most important reason is the service which we can give to the public, as well as to the profession, through learning something about the economic side of medicine.

Medicine has been slow in realizing that there is an economic side, which is closely allied to the scientific side, and now it is facing many economic problems. Through our Woman's Auxiliaries we can be enlightened as to the various problems by having speakers who will explain some of the present difficulties. Great inroads are being made into the private practice of the doctors, about which most wives are unaware.

Many well informed doctors and medical editors feel we are on the threshold of state medicine, and this would be disastrous to both the profession and the public alike. Yet some of our large women's organizations sometimes endorse certain bills and foster certain movements which will aid in bringing this about. In their willingness to help humanity they fail to see this

paternalistic side. In these medical socialistic movements which the Profession oppose, the scales balance evenly, and that which will benefit the public will also benefit medicine, and vice versa. Sometimes the public loses sight of the fact that the opposition of the medical profession to certain seemingly laudable movements, is in the end for the welfare of the general public. How many doctors' wives stop to consider that this is true? Sometimes one might feel that we club women have been made the dupes of charitable organizations and social reformers. Let us investigate the charities which our clubs sponsor and aid. Some are simple pauperizing the public and encroaching upon the doctors' private practice. I am sure that our club women would not want to be an aid to state medicine. Our country should profit by the unpleasant experiences of other countries which have accepted state medicine.

Let us have speakers before our Woman's Auxiliaries who thoroughly know the dangers of legislation such as state medicine, Sheppard-Towner Bill. We certainly must acquaint ourselves with the dangers of a new bill which is to go before Congress and which is said to be much more vicious than the Sheppard-Towner Bill. Some women know what the Sheppard-Towner Bill is. MORE DO NOT.

It is very encouraging to me to hear from the Educational Committee of the Illinois State Medical Society that many Auxiliaries are asking for speakers, as I have suggested. I hope that I have made it known to all the Woman's Auxiliaries of the Illinois State Medical Society that the Educational Committee has a speakers' bureau and that they will furnish speakers gratis to any organization, as well as health articles for any newspaper or organization. Health news is of great importance to the public so this service should be very popular.

In talking before many auxiliaries, I have been surprised to find how many doctors' wives voted for the endorsement of the Sheppard-Towner Bill, by their various clubs. They have volunteered the information that their reason for doing so was that they did not know what it meant and supposed it was all right because the club board had recommended that it be endorsed. In most cases only the proponents of the bill were heard. Let us know what we are doing. There are a few large women's organizations which



favor this strongly, so we should make ourselves a power whose influence will be felt. If time permitted, I could cite two instances, where in each case, just one doctor's wife was responsible for the defeat of an endorsement of the Shepard-Towner Bill by her club. Once she had courage to rise and talk against the bill, others did likewise and it was easily defeated. Wouldn't it be a good idea to see that our clubs had by-laws to the effect that both sides of any question must be heard before being voted upon, whether political, social, or what not? There are so many doctors' wives spread throughout the clubs that this could be easily accomplished. We are apt oftentimes to be persuaded or convinced of the wrong idea if we hear only one side of the question.

I was told by a hospital superintendent who goes very frequently to Springfield, that he meets many misdirected women lobbying for certain bills. He feels sure that they are anxious to work for the welfare of the people and if properly informed, would be working against these bills just as hard as they are working for them.

I have learned from legislators that the endorsement of bills by various clubs has great weight with them. They do not stop to consider that the vote does not represent the club as a whole, but in most cases just a small percentage of the club membership, for these bills are usually voted upon for endorsement at business sessions, where few members are present. I believe that it would be a good idea to have some open auxiliary meetings and urge the members to invite their lay friends, as well as doctors' wives who are not members, to come. These in the form of afternoon teas with interesting speakers would be attractive. Many women would be glad to know more about medical legislation. Even a little of this knowledge as a side issue, combined with an interesting talk on the "Romance of Medicine" or "Lives of Great Men in Medicine" as the main feature, would be enjoyable and instructive.

Let us know for whom we are voting when we go to the polls. There are many politicians who speak reproachfully of trained medical men and who are not in sympathy with the high standards of the medical profession. In our organizations as well, we might know just what viewpoints our candidates have. Particularly

the Chairman of Public Health Committees should have the modern viewpoints of organized medicine.

I should urge that our members see that all medical journals are sent to the home and that they read these. There are many interesting and enlightening original articles, editorials, and correspondence. I am sure that these will stimulate an interest in the auxiliary. When there is auxiliary news, space will be given by the editor for that purpose. I should be glad to have news sent in from auxiliaries. It would be interesting for one county to know what the other is doing, and helpful as well.

I would suggest that you read particularly the last three editions of the ILLINOIS MEDICAL JOURNAL for they are chock full of articles concerning the economic difficulties confronting medicine at present. You will be sure to get a thrill if you are at all interested in the medical profession. I urge that every doctor's wife read "What If Nobody Cared," written by the very efficient chairman of the legislative committee of the Illinois State Medical Society, Dr. John R. Neal. Possibly reprints could be gotten upon request.

When hunting around for excuses for not becoming a member of the auxiliary, let us not say that we are too busy with other club activities, for this is the organization to which we should belong and to which we should give our strongest support.

MRS. G. HENRY MUNDT.

*President.*

#### A LETTER TO COUNTY OFFICERS OF THE WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

As a matter of record I am trying to gather some data on the Woman's Auxiliary.

I am asking all county officers to kindly send the names and addresses of their members, as soon as convenient. If at any time there is literature to be sent out, we should have all members' names. We hope to be able to send every one a copy of the next issue of The Journal of the Woman's Auxiliary. Any one wishing a copy of the first and only issue of The Journal may have it by writing to me or to the

state secretary. It is very interesting and shows the scope of the auxiliary work.

Will you kindly advise me as to what dues your organization decided upon? Have you collected any dues? May I quote Article VIII from the Constitution and By-Laws which says:

Each County Auxiliary shall pay dues to the State Auxiliary at the rate of (\$1.00) per capita, of which twenty-five cents (25c) shall go to the National Association. Bills for dues shall be sent by the treasurer during January of each year to each County Auxiliary and are payable on or before the next April 1st. A County Auxiliary in arrears for dues shall not be entitled to representation at a meeting of delegates of the auxiliary.

Any one wishing a copy of the state constitution and by-laws may have one sent upon request. I should like to have each county send me a copy of their constitution and by-laws.

It would be interesting to know what type of meetings you are having and what is the average attendance.

There probably will be a contest for subscriptions to *Hygeia* announced very soon. It behooves our state to start immediately securing subscriptions. Illinois must not fail in this contest for we should like to win the prize as well as the honor, for securing the most subscriptions.

So appoint your *Hygeia* chairman and a large committee immediately. You will be apprised of the details as soon as they are announced. *Hygeia* is becoming a very popular magazine. It is being used by many school teachers for classroom work. It would be interesting for each county to see that *Hygeia* is placed in every school, library, and reading room. One state auxiliary has placed it in all club cars on outgoing and incoming trains.

I shall be glad to send to any one the very interesting report which was given at the National Auxiliary meeting in Minneapolis by Mrs. McGlothlin, the National *Hygeia* Chairman of the Woman's Auxiliary.

If at any time the State Auxiliary can be of service to the County Auxiliaries, it will be pleased to do so. We should like to have a hearty co-operation of the auxiliaries.

May I ask for the favor of an early reply?

Very sincerely,

MRS. G. HENRY MUNDT,

*President.*

This letter is printed in the journal, hoping that counties which have organized without any assistance and which have not reported to the state, will read this. I have only the names of counties which I have organized. I should like a complete list. Will those counties kindly reply immediately?

SOME ACTIVITIES OF THE WOMAN'S AUXILIARY TO  
THE ILLINOIS STATE MEDICAL SOCIETY, AND  
A REPORT OF THE NATIONAL AUXILIARY  
MEETING HELD IN MINNEAPOLIS

The first annual state meeting of the Woman's Auxiliary was held in Chicago in June, during the time of the meeting of the State Medical Society. One day was given to the auxiliary from 11 a. m. to 3 p. m. Over three hundred attended the luncheon which was given that day at 12:30. Interesting talks were made by Dr. William Allen Pusey of Chicago, and Dr. Harold M. Camp, Secretary of the Illinois State Medical Society. We had the very great honor of having our most charming national president of the Woman's Auxiliary, Mrs. John R. Reynolds, address us. A splendid string trio entertained with music during the luncheon, and a jolly get-together of doctors' wives was seemingly enjoyed by all. We all hope to meet again and renew acquaintances at the next annual meeting.

The new officers elected for this year are:

President, Mrs. G. Henry Mundt, Chicago 7000 S. Shore Drive.

President Elect, Mrs. John R. Neal, Springfield.

1st. Vice-President, Mrs. Edward H. Ochsner, Chicago.

2nd Vice-President, Mrs. F. H. Pirnat, Chicago.

3rd Vice-President, Mrs. J. O. Cletcher, Tuscola.

Treasurer, Mrs. A. E. Dale, Danville.

#### COUNCILORS

First District, Mrs. D. B. Penniman, Rockford.

Second District, Mrs. Roswell Pettit, Ottawa.

Third District, Mrs. P. H. Kreuscher, Chicago; Mrs. Chas. H. Parks, Chicago; Mrs. P. R. Blodgett, Chicago Heights.

Fourth District, Mrs. W. D. Chapman, Silvis.

Fifth District, Mrs. F. P. Cowdin, Springfield.

Sixth District, Mrs. Charles D. Center, Quincy.

Seventh District, Mrs. I. H. Neece, Decatur.

Eighth District, Mrs. T. O. Freeman, Mattoon.

Ninth District, Mrs. Andy Hall, Mt. Vernon.

Tenth District, Mrs. Wm. J. Benner, Anna, Ill.

Just recently through the efforts of Dr. Edith



Lowry, the ladies of Kane County attended a dinner with their husbands. While friend husband addressed the doctors, I talked to the ladies and an organization was effected that evening. Dr. Lowry, who is chairman of the Educational Committee of the Woman's Auxiliary of the Illinois State Medical Society, says Kane County is going to be one of the "livest counties," so the rest I hope will make an equal effort.

Mrs. Morris Fishbein and your president were invited to address the Woman's Auxiliary of the Indiana State Medical Society at their annual meeting, which was held September 26th. The reports of the county chairmen were very inspiring.

I am sure that if all the doctors' wives could have been present at the national meeting of the Woman's Auxiliary in Minneapolis, they would have signed us as members immediately. The Woman's Auxiliaries of St. Paul and Minneapolis surely spent much time in laying their plans for the entertainment of the ladies. We were given lovely rides, teas, receptions, luncheons and dinners.

The annual auxiliary luncheon was attended by about six hundred. The Illinois Auxiliary was recognized by your president being asked to give a response to the address of welcome on this occasion. A great many states were represented by their president and many excellent reports were given by the various presidents and chairmen of committees. Short talks were given by several prominent medical men.

I had the pleasure of giving a talk at the annual meeting of the Minnesota State Auxiliary, which was holding its annual meeting at that time. Splendid reports were heard from the various counties.

This report may seem somewhat belated, but I feared to put it in during the summer months. Now that the auxiliaries are at work again, I hope they are getting in the habit of watching the ILLINOIS MEDICAL JOURNAL for auxiliary news. Some of these days we may have a journal of our own, as some of the state auxiliaries do have.

Will the doctors kindly call this auxiliary news to the attention of their wives?

MRS. G. HENRY MUNDT,  
President.

7000 South Shore Drive.

## Correspondence

### FAITH CURE AT BEST A CONTRADICTION STILL

#### CHRISTIAN SCIENCE TO BE COMMENDED FOR COMPLETE TURN-ABOUT IN TACTICS AS TO CURE OF DISEASE

Publication of the following letter received from the editor of "The Christian Science Watchman" is of utmost interest to the medical profession.

If this letter states bona fide conditions it is doubly revelatory. It confirms what the profession, as well as a large proportion of the thinking laity and sage men of cloth have always contended: namely, that Christian Science is not a religion, nor a science, nor an efficient healing art, but really a lucrative white-collar trade.

Physicians, more than any other class of persons, regret to think of any human suffering pain without alleviation. It is at last nice to learn that *"In the personal experience of Mrs. Eddy there came a time when neither her own, nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science, she decided to utilize it and gratefully availed herself of the services of reputable physicians on various occasions."*

THE CHRISTIAN SCIENCE WATCHMAN

20 Jackson Place N. W.  
Washington, D. C.

October 16, 1928.

*To the Editor:* The tragedies that have been permitted in the name of Christian Science by its overzealous devotees have largely justified the widespread prejudice against it. The Christian Science Parent Church, the independent minority movement in Christian Science, is endeavoring to bring a new spirit of sanity and common sense into the practice of mental healing. It recognizes the unselfish, humanitarian labors of the medical profession in alleviating human suffering. It likewise recognizes the vital function of spiritual forces in relation to health. It is convinced that there exists a basis of coöperation on which medicine and religion may thrive together for the advancement of world health.

Since Mrs. Eddy's death, Christian Science practice has very largely become a commercialized faith-cure. The record of disease and death among Christian Scientists during the last few years is appalling. Because of a superstition that the use of a drug is an evil and the employment of medical aid tantamount to a confession that Christian Science has failed, the majority of the adherents of that faith turn to medical assistance only as a last resort, usually secretly and with the depressing conviction that they are committing a positive sin. Such an attitude tends to nullify the work of the physician and deplete the patient's mental capacity for recuperation. Frequently the doctor is called only when death is considered imminent, and to prevent, if possible, the embarrassment of an inquest.

These conditions have arisen from a misconception of Christian Science in its larger application. In order to prove to an incredulous world that the body can be healed by Mind, drugs were discarded during the early stage of the movement. Nevertheless, it is a recognized fact in Christian Science that a drug may be the medium through which the common faith and hope of the majority of mankind expresses itself. In the personal experience of Mrs. Eddy there came a time when neither her own nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science, she decided to utilize it, and gratefully availed herself of the services of reputable physicians on various occasions.

In so doing, she was consistent with her own teaching on the relation of a minority's faith in mind-power to a majority's faith in material means. She was far in advance of her followers' practical application of Mind-Science. Had her example been intelligently followed by her students, Christian Science practice would today hold a higher place in the general estimation of the world.

The Christian Science Parent Church was organized a few years ago under the leadership of Mrs. Annie C. Bill. It has developed branches throughout Great Britain, America, Australia, and elsewhere. Its members have been recruited almost entirely from those who have resigned from the original Christian Science organization after they became convinced that the trend of

thought within that body precluded further advancement of Mind-Science.

This organization maintains that the work of the Christian Scientist is limited to the teaching of spiritual truth, and to removing fear and other unhealthful moral conditions. Its members are forbidden by their Church by-laws to meddle in any way with medical or surgical practice, but must leave such work to those who are qualified and legally authorized for that responsibility. Neither shall a practitioner of this Church render his services unless both patient and attending physician request his aid.

Spiritual healing has a definite place in therapeutic practice. Therefore, in order that it may be utilized under such conditions as will keep it within its proper field and insure the maximum results, we bespeak the intelligent coöperation of the medical fraternity.

V. M. VICKERY,  
Editor.

#### LEGISLATIVE ACTIVITIES BEFORE ELECTION.

#### PRE-ELECTION EDUCATION OF PROSPECTIVE MEMBERS OF LEGISLATURE THE PROPER THING.

The following letters to the medical profession of Illinois and to prospective members of the legislature was sent by the chairman of the legislative committee of the Illinois State Medical Society under date of October 10, 1928. The letter to the members of the Illinois State Medical Society is as follows:

Springfield, Ill., October 10, 1928.

To the Members of the Illinois State Medical Society:

The enclosed printed letter has gone forward to prospective candidates for the next session of the Legislature. It is surprising the amount of material that these candidates are receiving from the Up-lifters, the League for Medical Freedom, the different cults, masseurs, etc.

Frequently a candidate makes an error in promising his support to a measure simply because he has not previously been informed of the danger of such a law, and obviously the cults put up their side in a very pleading and fairly convincing manner to the uninitiated. The chiropractors employ a Chicago attorney by the year to carry on their battles, both in court as



well as in the Legislature, so your committee believes that it is necessary to send a bulletin, such as the one above mentioned, in order that the candidate may be advised that the Illinois State Medical Society opposes all efforts to lower the safeguards regarding the treatment of disease in the state of Illinois.

This office is exceedingly busy writing out the records of the different legislators relative to their attitude in the past regarding public health matters and the proper education of those who seek to be licensed to treat human ailment. It is indeed gratifying to read the number of letters that we receive from prominent and worthwhile legislators asking that their record be submitted to the doctors of their district.

All such communications, of course, are non-partisan, and it has been my happy privilege, although a Republican by choice, to advocate the reelection of men who have fearlessly fought for decent medical laws in the Legislature, who are on the Democratic ticket.

We still get letters from a number of districts in which apparently the doctors are making no effort to ascertain the early impression that the candidates may have regarding the necessity for changing the Medical Practice Act, which, of course, is attacked at each session.

Your committee does not believe that it is necessary for physicians to become actively engaged in political controversies, but we do believe that it is a stamp of good citizenship to be sufficiently interested so that you may advisedly vote for the best man seeking election. Your decision may be greatly aided in this matter by a personal interview with the candidate with the idea of gaining information as to his type and character, as well as his pre-election promises, such as all candidates necessarily make.

There is an extreme danger in allowing matters to go on until some unnecessary law or privilege is granted to those who are manifestly unqualified to treat disease. It is reported that the California law permits chiropractors to do minor surgery. Personally, I do not know what minor surgery is. If a simple catarrhal appendix may be successfully operated on in a few minutes, and it takes two hours and one-half to do repair surgery on the tendons and fascia of the hand after lancing a felon, which operation would the average jury decide was minor surgery?

The election is on November 6 and is the opportunity for all legal voters to express their preferences regarding the character of the men who will be intrusted with the grave responsibility of passing the laws of the state.

Yours very truly,

J. R. NEAL, M. D.,  
Chairman Legislative Committee.

The following is a copy of the letter sent out the same date to candidates for the General Assembly:

To the candidate for the General Assembly addressed:

Among the many problems that will be decided in the next Legislature are those which pertain to the public health.

In each session of the Legislature, for a great many years, there have been groups of drugless healers who attempt to gain recognition by special laws to favor their particular branch of the healing art. The 53rd General Assembly devoted much time to this perplexing problem, and, after a thorough deliberation, a special committee in the House and Senate drew up a measure which passed in the Senate without a negative vote, and in the House by a big majority.

The law was attacked by the drugless groups. The cases went to the Supreme Court and in five separate decisions the court held the act valid, declaring it a safeguard to the public health and that the minimum requirements were not too severe.

The Administrative Code of the state makes provisions for the Drugless Healers to have proper representation on the Board of Medical Examiners. There is now attached to the board a licensed osteopath and a licensed chiropractor, who examine the applicants. Properly qualified chiropractors are appearing before the board at each of the examinations and many of them have passed and have been duly licensed.

The National School of Chiropractic in Chicago, the largest school in Illinois, teaching chiropractic, has complied with the requirements in the law and is in good standing and its graduates are appearing before the Board of Examiners and those successful in passing the examination are being licensed.

The Palmer School of Chiropractic, located at Davenport, Iowa, refuses to bring its curriculum up to the requirements of the Illinois law. The head of that school refuses to admit that

a high school education is necessary before a college course, and also gives a course of instruction in his professional school very much less than the requirements of the Medical Practice Act, which have been held necessary by the Supreme Court of this state on five occasions. These facts can be verified by the Director of Registration and Education at Springfield.

The records of the Department of Education and Registration disclose the fact that among the seventeen or eighteen hundred Drugless Healers licensed in the state of Illinois there are practitioners of osteopathy, chiropractic, naprapathy, vitapathy, neuropathy, hydrotherapy, mechanotherapy, physcultopathy, magnetic healing and naturopathy. Does it look reasonable that the chiropractor should have a special law and a special board when the other "Drugless Healers" are not permitted to have a like privilege? Even if a separate board was provided for the above ten groups this would only be a beginning because there are nearly thirty well defined groups of Drugless Healers all with different names and with different ideas of treatment. As fast as a new group would come into Illinois and seek a special board it would be only consistent to grant it.

The Medical Practice Act of Illinois does not discriminate against any method of healing. It does not take into account the question of treatment or healing at all. It simply says that no man shall assume the grave responsibility of caring for the sick until he is familiar with the human body in health and in disease and knows its structure and its functions. Every man who undertakes to practice the healing art is presumed to know something about the anatomy (structure of the human body), physiology (functions of the body), the chemical compositions of the body fluids and tissues, bacteriology (the study of the small living organisms with which we are constantly in contact) and hygiene (the laws of sanitation and right living). The state assumes that without such fundamental knowledge, which is claimed in common by all so-called schools, no man should be allowed to assume the responsibility of caring for the sick. When a man has such knowledge he should be and is allowed under the state law to use any plan or system of healing that his judgment and conscience may dictate. The Illinois law makes one common standard for all who would treat

the sick. No such thing as systems or schools of medicine or methods of healing are recognized.

What the chiropractor wants to do is to set up his own standards. He wants to disregard the fundamentals common to all schools and systems. He wants to reverse the state's attitude on the question of treatment, by adopting the plan of securing state recognition in the matter of treatment alone.

Treatment is a matter of opinion and follows as a natural sequence on knowledge of what it is proposed to treat. Men have always differed on the subject of treatment. It will never be possible to establish by law any system of treatment or to favor any school of medicine representing a special or exclusive "cure-all" plan of treatment. It is possible to establish minimum requirements in general education and in knowledge of the fundamentals common to all schools.

No man ignorant of common standards accepted by all schools should be allowed even to give advice to sick people or to treat anything. It is manifestly impossible to give good advice on a subject about which a man knows nothing and it is manifestly impossible for him to separate cases which he proposes to treat from the cases he does not propose to treat. The only fault the chiropractor can find with the Medical Practice Act is that the law requires him to have a general education, and then pass an examination on such branches as anatomy, physiology, chemistry, bacteriology and hygiene. There never has been and never will be an Allopathic Anatomy, a Homeopathic Physiology, an Eclectic Chemistry, an Osteopathic Bacteriology or a Physio-Medical Hygiene. Such would be as absurd as a Baptist Algebra, a Methodist Geography or a Presbyterian Grammar.

The question that the legislator must necessarily decide is not one favoring medical men, chiropractors or any other group, *but the big question as to protecting the public's health against men incompetent to diagnose disease.* It is just as important to know what not to do as it is to know what to do to treat any diseased condition. Probably it may be admitted that the chiropractor does no particular harm on cases that are not of an organic nature, but the efficacy of his therapy is not the debatable question at this time. It is merely one of minimum education and the Medical Practice Act of 1923, which has been upheld as being constitutional by the



Supreme Court of Illinois, certainly has the most liberal requirements for the Drugless Healer and for the chiropractors. For the chiropractor to claim that only chiropractors are qualified to examine their applicants in anatomy, physiology, etc., is an insult to the intelligence of the members of the General Assembly. Treatment may differ, but the human body does not and the mere coining of euphonious names to certain anatomical parts does not change the basic understanding of the human body.

We sincerely trust that you will give this interesting subject careful consideration before pledging your support for or against any proposed legislation relative to the public health.

JOHN R. NEAL,  
Chairman Legislative Committee,  
Illinois State Medical Society.

#### VOLUNTEER HEALTH ORGANIZATIONS ARE CONTRIBUTING TO THE TENDENCY TOWARDS STATE MEDICINE.

Springfield, Illinois,  
October 19, 1928.

*To the Editor:* During the past summer I visited Poland for the purpose of looking over the general public health problems and especially the tuberculosis problem of the enormous Anaconda Copper Company interests. The company is responsible for the material welfare of about 125,000 people.

As you of course know, Poland is entirely organized under a system of health insurance with most of the physicians employed with meager salaries in life time jobs. The result is, of course, the smothering of all medical initiative and the situation is deplorable.

The very interesting feature of the situation is that the control of all medical affairs by general and local government and by the government controlled insurance companies, results in the stamping out of all volunteer health activities and seriously impedes the ordinary measures which would be taken by a large corporation for the protection and care of their employees. There are practically no private physicians.

It has occurred to me that a brief article on this situation might be timely for the ILLINOIS MEDICAL JOURNAL and I should be very glad to prepare it if you care to have me do so. I think that you are convinced that volunteer health or-

ganizations are contributing to the tendency toward state medicine. It is interesting to find in Poland that state medicine, when it is finally obtained, absolutely abolishes and strangles out these very volunteer health organizations.

I believe it is an angle which has not been given emphasis or publicity.

GEORGE THOMAS PALMER, M. D.

#### THE UNIVERSITY OF ILLINOIS DOES NOT INTEND TO ENTER INTO THE PRACTICE OF MEDICINE.

Chicago, Illinois,  
October 23, 1928.

UNIVERSITY OF ILLINOIS  
COLLEGE OF MEDICINE  
Congress and Honore Streets  
Chicago, Illinois.

*To the Editor:*

In the August issue of the ILLINOIS MEDICAL JOURNAL appeared a leading editorial entitled "Is the University of Illinois Intending to Enter Into the Practice of Medicine?" There is the intimation in this title and in the body of the editorial that the university intends to engage in state medicine.

May I at once answer this query by stating emphatically that the University of Illinois has not intended and is not now intending to practice state medicine.

The president of the university is on record in the columns of the JOURNAL as being opposed to state medicine. As an administrative officer of the college and as a citizen I should personally oppose any move in this direction. I do not believe in it.

Practically all the clinical members of the faculty of the college are engaged in private practice. They are opposed naturally to anything that even suggests the practice of medicine by the state. Not a word in favor of state medicine have I ever heard from a faculty member.

As to the transfer of the hospitals from the State Department of Public Welfare to the university, this suggestion first came from the governor and during the special session of the Legislature last spring was advised by the governor on his own initiative and incorporated in his message. I believe that from the standpoint of education, administration, economy and efficiency, this transfer should be made. As a business proposition it is a rational arrangement.

Attention is called to the fact that the research and educational hospitals are strictly charitable institutions for the poor of the state. No charges whatever for services are allowed. In the Out-Patient Department or Dispensary only small nominal fees are charged for admission, drugs, etc., as was done for years by the old College of Physicians and Surgeons on Honore Street and is being done by practically all other free dispensaries. These small fees do not by any means cover the cost of maintaining the dispensary.

Every effort is made to limit the services of the dispensary and the hospital to the needy poor. All patients sign a statement to the effect that they are charity cases. We cooperate with the United Charities and other agencies to prevent the abuse of charity and we are willing and anxious to cooperate with medical organizations in this regard. Pay cases are not needed and are not wanted. Abundant material for teaching and study is available without them.

The University of Illinois cordially invites the investigation of its methods and practices in the operation of the out-patient department and in connection with the services which it renders to the hospitals with which it is associated.

I am asking you to publish this statement in the editorial columns of the ILLINOIS MEDICAL JOURNAL. I do this, believing that the above facts will be of value and aid to the readers of the Journal in connection with the solution of the many medical problems of the State of Illinois. I do it also knowing of your fairness in presenting all phases of matters of this kind before the profession and the public for their consideration.

Assuring you of our earnest and sincere cooperation in these matters, I am,

Yours cordially,

D. J. DAVIS, *Dean*

PRESIDENT KINLEY, PRESIDENT OF  
THE UNIVERSITY OF ILLINOIS,  
DOES NOT BELIEVE IN STATE  
MEDICINE IN THEORY OR  
IN PRACTICE

At the meeting of the Dad's Day Association at the University of Illinois on Saturday, October 20, Dr. Kinley made substantially this statement:

"You may hear erroneous reports that the

University of Illinois has in mind a plan to practice state medicine. I want you fathers of students in our university to understand that these rumors or reports are without any foundation whatever. We do not believe in state medicine, in theory or in practice, and as long as I am connected with the university there will be no deviation from this program."

Dr. Kinley was talking to his audience about the problems of the university, among which he mentioned the lack of proper hospitalization facilities for the students at the University of Illinois Medical College in Chicago.

#### MAYO CLINIC DESIRES BACK VOLUMES OF THE ILLINOIS MEDICAL JOURNAL

Mayo Clinic, Rochester, Minn.

*To the Editor:*

October 12, 1928.

We should greatly appreciate it if you could supply us with the numbers of the "ILLINOIS MEDICAL JOURNAL" which I am listing below. We are trying to complete our volumes for binding and we lack these numbers. Kindly send them to the Mayo Clinic Library, Box 482, Rochester, Minnesota.

Volume 1-6 inclusive, all numbers.  
Volume 7:1905: numbers 2 and 6.  
Volume 8:1905: numbers 1, 2, 3, 4 and 6.  
Volume 9:1906: number 1  
Volume 10:1906: numbers 4, 5 and 6.  
Volume 11:1907: numbers 1-6 inclusive.  
Volume 12:1907: numbers 2-6 inclusive.  
Volume 13-15: 1908-1909: inclusive, all numbers.  
Volume 16:1909: numbers 1, 3, 4 and 5.  
Volume 17:1910: number 1  
Volume 20:1911: number 6.  
Volume 21:1912: numbers 1, 2, 4, 5 and 6.  
Volume 22:1912: numbers 1-6 inclusive.  
Volume 23:1913: number 4.  
Volume 27:1915: number 2 and 6.  
Volume 28:1915: number 3.

NOTE: Inasmuch as back numbers of the Journal will in all likelihood come from several sources we request that the volumes be forwarded directly to the editor, 185 N. Wabash Avenue, Chicago, where the collection can be checked to see that the order has been fully taken care of.

#### BUREAU OF SCIENCE LIBRARY, MANILA, PHILIPPINE ISLANDS, DE- SIRES BACK NUMBERS OF THE ILLINOIS MEDICAL JOURNAL

The Bureau of Science Library, Department of Agricultural and Natural Resources, Manila, Philippine Islands, desires back numbers of the



## ILLINOIS MEDICAL JOURNAL as follows:

- Vol. 25, No. 1, 2, 1914.
- Vol. 26, No. 5, 1914.
- Vol. 27, No. 1, 1915.
- Vol. 29, No. 2, 3, 1916.
- Vol. 30, No. 2, 6, 1916.
- Vol. 31, No. 1, 5, 1917.
- Vol. 32, No. 1, 3, 5, 6, 1917.
- Vol. 42, No. 1, 5, 1922.

NOTE: Kindly forward Journals to ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago, Illinois, where they will be redirected to the magazine specialists in Boston who make the reequst.

## WHY BIRTHS SHOULD BE REGISTERED

There is hardly a relation of life, social, legal or economic, in which the evidence furnished by an accurate registration of births may not prove to be of the greatest value, not only to the individual but also to the public at large. It is not only an act of civilization to register birth certificates but good business, for they are frequently used in many practical ways:

- (1) As evidence to prove the age and legitimacy of heirs.
- (2) As proof of age to determine the validity of a contract entered into by an alleged minor.
- (3) As evidence to establish age and proof of citizenship and descent in order to vote.
- (4) As evidence to establish the right of admission to the professions and to many public offices.
- (5) As evidence of legal age to marry.
- (6) As evidence to prove the claims of widows' and orphans' pension law.
- (7) As evidence to determine the liability of parents for the debts of a minor.
- (8) As evidence in the administration of estates, the settlement of insurance and pensions.
- (9) As evidence to prove the irresponsibility of children under legal age for crime and misdemeanor and various other matters in the criminal code.
- (10) As evidence in the enforcement of law relating to education and to child labor.
- (11) As evidence to determine the relations of guardians and wards.
- (12) As proof of citizenship in order to obtain a passport.
- (13) As evidence in the claim for exemption from or the right to jury and military service.

## OLD CHINESE WORKS REVEAL DRUG LORE

Chinese physicians of five thousand years ago knew the uses and physical reactions of numerous drugs of which the physicians of the western world are only now learning, according to the findings during the course of the translations of Chinese medical works by Michael J. Hagerty, translator for the United States Department of Agriculture.

"Ma Huang," known to western scientists as ephedrin sulphate, a recently developed preparation for the treatment of bronchial asthma, hay fever and rhinitis, has been used in China for more than five thousand

years, and is first mentioned, Hagerty has found, in the ancient *materia medica* of Emperor Shen Hung, who reigned from 2737 to 2698 B. C.

In the course of Hagerty's translations, its use as a cure for colds is most commonly cited. Other uses for "ma huang" were in treating or curing diseases of the "five internal organs," which to the Chinese physician of early days were the kidneys, spleen, liver, heart and lungs; to cure diseased armpits and breasts, to stop "the desire to vomit," or to induce or prevent perspiration—different parts of the plant being used for the purpose in the last case.

Colds were broken up by its use in a broth. An ancient prescription translated by Hagerty recommends its use "in the epidemic of fever due to change in weather, just as it arises on the first or second day."

The prescription, compiled during the T'ang dynasty, or between 618 and 905 A. D., advises the patient to "take one large ounce of ma huang, remove the joints; take four pints of water, boil together and remove the top scum; boil down to two pints and remove the dregs; take one spoonful of rice and beans and make a gruel. Before using the broth take a warm bath and afterward eat the gruel, put on a thick bed covering and when the perspiration comes forth there will be a cure."

Ephedrin, the active principle of ma huang, was first isolated in impure form in 1885, but it had not been dealt with completely in the Occident until 1924, and its uses are now becoming generally known. The Department of Agriculture is making a thorough study of the drug with a view toward encouraging its cultivation. It is known to grow wild in sections of California and Nevada.—*U. C. Clip Sheet*.

## TUBERCULOSIS IN ILLINOIS

The state board of health's report on the tuberculosis death rate in 1927 shows Jacksonville to have had the highest death rate of the year—310.5 per 100,000, but that is not to be taken, of course, as the death rate of Jacksonville itself, but of Jacksonville plus various institutions there. Lincoln, also with state institutions, had a death rate of 182.5 per 100,000, and Cairo had a death rate of 153.8. Chicago came as low as 82.7 per 100,000, but the lowest rate of any of the reporting cities was that of Moline, with 17.1. The next best record was made by Pekin, with 21.3, and the third in the list was Evanston, with a death rate of 23.7 per 100,000.

## A SELF-ELIMINATING PROFESSION

The medical profession is the only one where good and efficient work tends to reduce the prosperity of those in it. The plumber does a good job, but corrosion is his ally and soon he must come back to repair the pipe he installed last year. The lawyer wins the case, yet paid for writing up the agreement, and makes more work for himself by writing it in such a way that, in case of dispute, he alone can interpret what he has done.

But the good and worthy doctor cheats himself

every time he does a good job. He improves the sanitary system of a town—and loses a few hundred potential typhoid cases. He discovers, as Pasteur did, the germ theory, and immediately reduces the number of his future patients.

All of which is good, right and proper, and in perfect accord with the noble and high aims of the profession. But doctors tell us it is getting tougher and tougher every day to make a living, to say nothing of a competence, in a field where good work cuts down the chances for future livelihood.—R. & C.

#### AMMONIUM O-IODOXY BENZOATE IN ARTHRITIS

Dr. Millard Smith, of Ann Arbor, Mich., in *New Eng. J. Med.*, July 19, 1928, gives a resume of his results from the treatment of arthritis with ammonium o-iodoxy benzoate during the past 2 years. Of 65 patients, who had received at least five intravenous injections of the drug, 24 were markedly improved and 12 partially relieved. Those who were not relieved were afflicted with constipation of long standing but no focus of infection could be found. Such patients are probably absorbing toxins from their gastrointestinal tracts.

No patient in whom the only focus of infection was found in the teeth, tonsils, nose or sinuses failed to obtain marked improvement from the drug.

Dr. Smith thinks that, in the case of patients weighing less than 100 pounds, the initial dose should not be more than 0.3 Gm., nor subsequent doses larger than 0.7 Gm. Patients above this weight may be started on 0.5 Gm. and usually tolerate 1.0 Gm. subsequently.

Auxiliary physical therapy measures are strongly favored.

#### LEAD TREATMENT OF CANCER

At the International Conference on Cancer held at London, July, 1928, reported in *Lancet*, Aug. 4, 1928, the consensus of clinical opinion regarding the efficacy of the Blair Bell colloidal lead therapy of cancer was rather against this therapeutic method. In St. Bartholomew's Hospital, London, and in the London Cancer Hospital the reports, after a fair trial of the method, were distinctly unfavorable. On the other hand, some favorable results were observed in Birmingham, England, and in Paris, France.

The general conclusion reached by the Conference was to the effect that lead treatment of cancer had not yet reached the stage of practical therapeutics for the average physician, but that experimental work in this therapy should continue with a view to the discovery of a lead compound less toxic in its effects than those now used.

Dr. H. J. Ullman, Director of Cancer, Research of the Santa Barbara Cottage Hospital, in *Radiol. Rev.*, July, 1928, states that orthophosphate of lead had essentially the same effect on tumors as has colloidal lead and is much less toxic.

#### EPHEDRINE IN SPINAL ANESTHESIA

Dr. H. L. Wehrbein of the Urological Service of Bellevue Hospital, N. Y., in *Brit. J. Anesthesia*, April, 1928, says that spinal anesthesia has become the most frequently employed method of anesthesia in their urologic work, but that the alarming drop in blood-pressure which often occurs is a drawback. Since trying ephedrine as a stimulant it has solved the problem to a large extent.

During one year they have used ephedrine in over 300 cases of spinal anesthesia. At first it was used prophylactically in all cases of low blood-pressure. But it was found that there was no safe minimum and it is now the adopted policy to give 50 mgm. of ephedrine, subcutaneously, in all cases, five minutes before the spinal anesthesia is begun. They also tried a few times to counteract an alarming blood-pressure drop after spinal anesthesia by intravenous injection of ephedrine. This was strikingly successful.

The average drop in blood-pressure after spinal anesthesia is 10 to 30 mm. within 15 minutes; the average drop in 30 consecutive medicated cases was nil.

Ephedrine is an efficient drug for the maintenance of blood-pressure during spinal anesthesia.

#### TRYPARSAMIDE IN PARESIS

Owing to its penetrability to deep-seated foci, tryparsamide is known to act very favorably in spirochetal infections of the central nervous system.

In a paper (soon to be published in *J. Nerv. and Ment. Dis.*) Drs. R. C. Jaenike and G. W. Forman of the State Hospital, Osawatomie, Kansas, report their findings in a series of 100 frank paretics, treated by tryparsamide, over a period of three years. Mercury injections were given in conjunction. The 100 patients received an average of 34.6 injections of 3 Gm. each of tryparsamide. Five (5 per cent) of these patients have been considered as cured; 38 (38 per cent) showed improvement, both mentally and physically; 15 of these have left the institution and are behaving normally; 2 (2 per cent) patients have improved clinically, but not mentally; 34 (34 per cent) are either stationary or have declined.

The best results are in those patients whose symptoms were less than a year in duration at the time of admission, and in those with the manic type of symptoms.

In 35 patients, the spinal gold chloride curve test was reduced from paretic to tabetic type; in 6 cases the curve became normal.

In 6 cases, subjective eye symptoms appeared and the treatment was discontinued.

#### STRONTIUM LACTATE IN TETANY

Continuous oral administration of strontium lactate prevents the development of tetany in thyroparathyroidectomized dogs. Such dogs adapt themselves to the loss of the parathyroids and recover.—W. W. Swingle and W. F. Wenner, in *Am. J. Physiol.*, Jan., 1926.



## Original Articles

### URETERAL STRICTURE\*

BUDD C. CORBUS, M. D.  
CHICAGO

The subject of urinary drainage is foremost in the minds of modern urologists. The urinary tract in man may be crudely compared to the modern installation of plumbing. As long as there is free and unobstructed drainage the plumbing works satisfactorily, but if the drainage becomes obstructed the outflow is immediately interfered with.

Man's urinary drainage system extends from the kidney to the external urethral orifice and roughly comprises the secretory and excretory portions of the kidney; a small sac, called the kidney pelvis, is connected by a tubular system, the ureters, to the bladder, and extends to the external orifice by means of another tube, the urethra.

The pioneers in urology were familiar with stricture of the urethra. In recent years volumes have been added to our knowledge of vesicle neck obstruction. Except for a congenital narrowing at the ureteropelvic junction, of the ureters, the upper portion of the urinary system

of the ureter, and our conception of the cause of upper urinary tract infections.

The evidence found for the conception of ureteral stricture as a clinical entity was obtained for the most part by pyelographic and cystoscopic study, the latter by means of the wax-bulb "hang" method of Hunner. This evi-

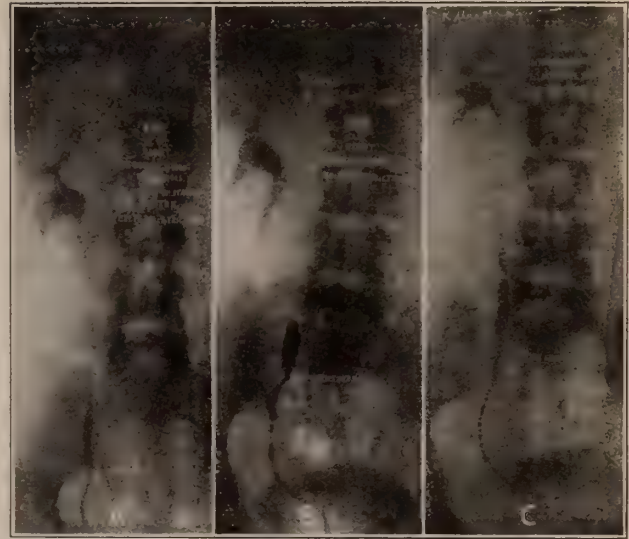


Fig. 2.—*A*, case 13: right beginning hydronephrosis; beginning dilatation of ureter; ureteral stricture. *B*, case 14: right rotated kidney; multiple strictures. *C*, case 15: right hydronephrosis; dilated ureter; ureteral stricture.

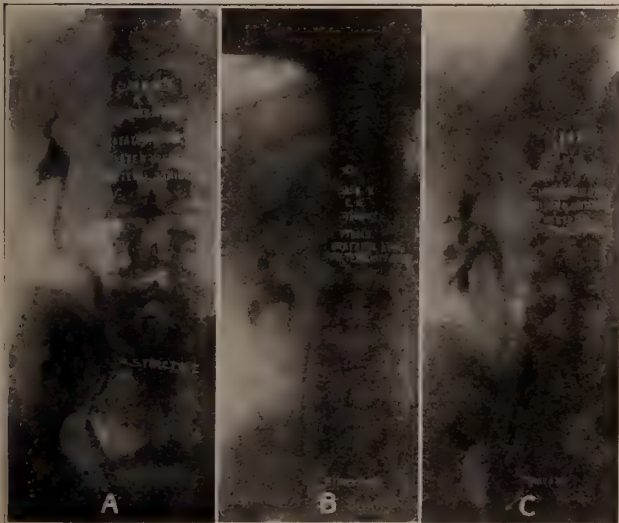


Fig. 1.—*A*, case 4 right rotated kidney; dilated ureter; ureteral stricture. *B*, case 5: right ptosis; ureteral kink; ureteral stricture. *C*, case 6: right ptosis; ureteral kink; dilated ureter; ureteral stricture.

was entirely overlooked. This in a measure was due to our indefinite knowledge of the anatomy

dence has been further substantiated by the autopsy report of Goldstein and Carson and more recently by Schreiber, in a paper entitled "Ureteral Stricture, its Anatomical and Pathological Background." His conclusions, based on the pathological, anatomical, and clinical data in 100 consecutive autopsies, are as follows:

1. Stricture of the ureter does exist as a definite pathological entity.
2. A 12 per cent. postmortem incidence of ureteral stricture or stenosis corroborates the great number of ureter strictures or stenosis reported clinically.
3. Latent symptomless hydro-ureteronephroses due to ureteral stricture or stenosis are of relatively frequent occurrence, as is evidenced by a postmortem incidence of 10 per cent. in our series.
4. Ureteral stricture as a localized, intrinsic, inflammatory process in the ureteral wall, metastatic in character, due to focal infection, apparently either does not occur, or is relatively extremely rare as compared with ureteral strictures or stenosis of other origin.
5. Ureteral stricture or stenosis is found most frequently in the pelvic ureter, in a zone about 2 to 6 centimeters up from the ureteral orifice.
6. As prime etiological factors in the pathogenesis

\*Address before the Chicago Urological Society and Evanston Branch of the Chicago Medical Society.

of ureteral obstruction due to stricture and stenosis we would emphasize in the order named: (a) congenitally accentuated narrowing of a congenitally physiologically narrow site; (b) extension of inflammatory processes into the ureteral wall from adnexal disease with and without thrombophlebitis, and advanced chronic cystitis; (c) the occluding kinking power of crossing anatomical structures, namely, the vas deferens in the male and uterine artery in the female.

7. Caution is necessary in the interpretation of the physical signs obtained by the wax-bulb hang method of Hunner, especially in that very important region 2 to 6 centimeters up from the ureteral orifice, for in this region we find numerous physiological sites of narrowing and increased density of the ureteral wall, namely, (a) the juxtavesical zone; (b) the iliac zone; (c) the ligamentum latum region, the site of crossing of the uterine artery; (d) the vas deferens region, the site of crossing of the vas deferens; (e) the site of the obliterated hypogastric artery; and (f) the so-called "valve formation" in the juxtavesical region.

I am not in accord with Schreiber's statement in regard to focal infection. I believe that acquired ureteral stricture in many cases is due to focal infection, either recent or remote, from which the bacteria are carried to the kidney by means of the blood stream and an actual, localized, intrinsic inflammatory process is produced in the ureteral wall by the continuous passage

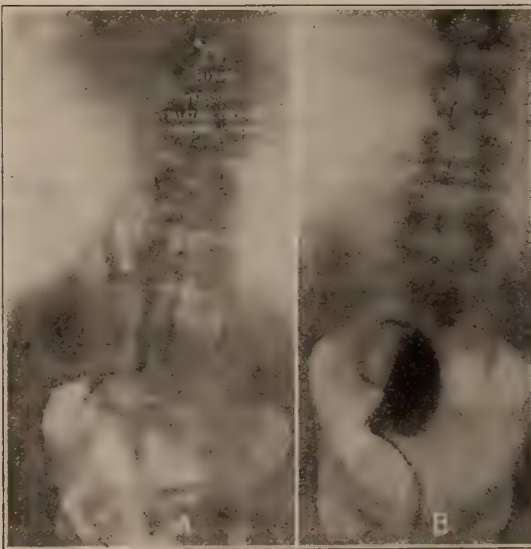


Fig. 3.—A, case 19: right ptosis; dilated ureter; ureteral stricture. B, case 20: right ectopic kidney.

of infected urine. Clinically I have often seen this process continue and be aggravated by ureteral dilatation only to subside upon the removal of the foci of infection.

**Definition.**—According to Hunner, ureteral

stricture is an intrinsic disease of the ureteral wall, resulting in narrowing of the lumen, which leads to varying degrees of stasis in ureteral drainage.

**Etiology.**—I am in accord with Rathbun, Tolson, and the already large group of urologists who have written on this subject, that infection.

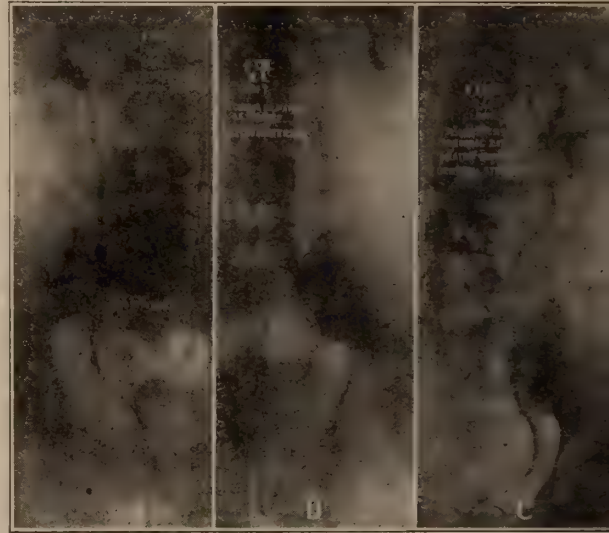


Fig. 4.—A, case 16: right dilated ureter; ureteral stricture. B, case 17: left beginning dilatation of ureter; ureteral stricture. C, case 18: left slight ptosis; ureteral kink; dilated ureter; ureteral stricture.

either recent or remote, is the cause of ureteral stricture in a large group of cases. However, there is no question that trauma occasionally plays a role.

Of the acute infections we find tonsillitis, influenza, scarlet fever, diphtheria, pneumonia, puerperal fever and otitis media as the principal sources, while the more chronic forms of infection, such as dental infections, enteritis, prostatitis, osteitis, salpingitis, seminal vesiculitis, are equally contributory. In any event, the infection becomes hematogenous and produces its effect locally on the ureter, or in the lymphatics and lymphatic nodes that surround the ureter. Of the exact *modus operandi* there is still discussion.

**Pathology.**—There is marked round cell infiltration on the ureteral wall, the median coat and the epithelial lining being chiefly involved. The epithelial cells become flat and plate-like.

Palpation of the stricture gives a sensation of hardness and thickening of the ureter. The ureter is usually dilated above the stricture or between strictures. If the stricture has been



present long enough there is always evidence of dilatation of the kidney and kidney pelvis.

Ureteral strictures, like urethral stricture, may be classified as soft and cicatricial, the latter being subdivided into resistant and fibrous.

Clinical experience has shown that ureteral dilatation and the establishment of adequate

citis" with less suspicion than of old. I firmly believe that no case of so-called chronic appendicitis or chronic tubal infection should be operated upon without first having the ureter investigated on that side.

Acute appendicitis and acute pyelitis are often difficult to differentiate, but as a rule the leukocyte count is higher in pyelitis than in appendicitis. The urine may be free from pus, owing to poor drainage on the affected side, but at such times there is always pain on pressure in the costovertebral angle.

The more chronic type of ureteral obstruction is often very difficult to diagnose and it is here that the acumen of both physician and urologist is best tested. Cultures of the urine should be made in the cases of all males who present themselves with a chronic nongonorrheal discharge. If positive cultures are obtained the upper urinary tract should be investigated for ureteral stricture, but normal urinary findings do not rule out ureteral stricture.

In the female, when there is a history of vesical irritability at the menstrual period, together with abdominal pain in either side, a history of chronic appendicitis is significant and also indicates the necessity for a complete urological study.

draining is dependent on the character of the structure present in a given ureter.

I assume that we are all in accord with the fact that there is no such thing as cystitis *per se*. I am going to venture the seemingly extravagant statement that there is no such thing as pyelitis *per se*, except for congenital anomalies, tumor and tuberculosis. I believe if we afford a given patient free ureteral drainage there will be no pyelitis.

*Symptoms.*—Most of the cases that I have had occasion to examine have been referred to me because of acute urinary infection, with high fever, or as the result of Dietl's crisis. The latter are by far the most interesting. We formerly thought that renal or ureteral calculi were the only cause for this distressing syndrome. If we failed to find the calculus our conclusion was that it did not show in the skiagram, but we now know that ureteral stricture can produce a typical Dietl's crisis, and that with dilatation of the ureter the symptoms disappear.

We have come to regard "chronic appendi-

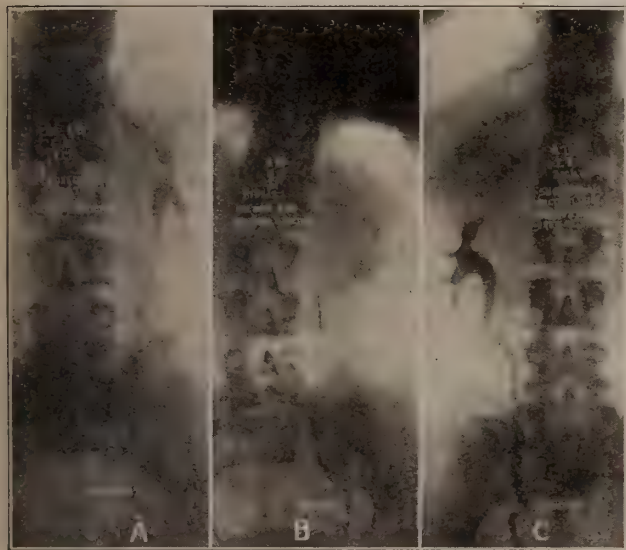


Fig. 5.—A, case 7: left beginning dilatation of ureter. B, case 8: left ptosis; ureteral kink; ureteral stricture. C, case 9: right slight ptosis; ureteral kink; dilated ureter; ureteral stricture.

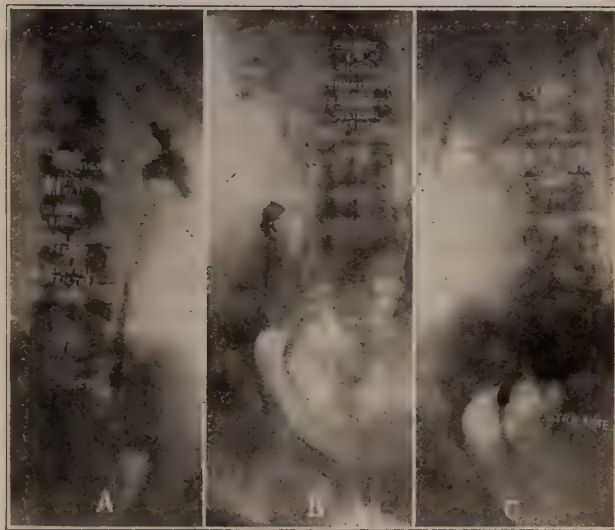


Fig. 6.—A, case 1: right rotated kidney; ureteral kink; dilated ureter; ureteral stricture. B, case 2: right hydronephrosis; dilated ureter; ureteral stricture. C, case 3: right rotated kidney; ureteral kink; dilated ureter; ureteral stricture.

Pain may be either acute or of the chronic type. In the acute form the most frequent

symptoms are those that accompany Dietl's crisis, or stimulate appendicitis.

The chronic type of pain is most frequently associated with ureteral stricture; as its incidence and progress are of long duration the pain produced by such changes are not always constant but often vague and fleeting in character. As the obstruction becomes more pronounced and the upper urinary tract becomes dilated pain becomes a fairly constant symptom. It often occurs in the abdomen, low down on either side, or in the back across the sacrum, in the cheek of either buttock, and frequently is referred down the leg, as in sciatica. It may also occur in one or both costovertebral regions. In an interesting case that came under my observa-

is that we cannot accept his "ureteral hang" as pathognomonic of stricture. An abundance of clinical evidence is at hand to show that congenitally narrow portions in normal individuals will give the same resistance to the wax bulb.

If obstruction exists in a ureter and is constant one should be able to demonstrate the findings in a ureterogram, and until such evidence is supplied I do not believe one is justified in concluding that stricture is present in a given ureter. Of course, one's ability to interpret a ureterogram is in direct proportion to this clinical experience.

*Treatment.*—It has been our custom wherever stricture was demonstrated by the pyelo-ureterogram to begin the dilation with a number 3, 4, 5 or 6 F. bougie, well lubricated with liquid petrolatum. In two weeks the procedure is repeated, a bougie one size larger than that which was originally used being passed through the affected ureter. The dilation is continued every two weeks, the size used at the last dilation always being repeated, and increased one size at a time until the desired size is reached. We believe that the procedure of rapid divulsion of the ureter should be condemned as it only traumatizes the ureter and may result in additional scar formation later.

Since strictures of the ureter vary in their consistency, as do strictures of the urethra, the amount of dilation needed in a given case will vary. "Each is a law unto itself." In soft strictures we have been carrying the dilation to the number 12 F., then repeating in two weeks, and after that doubling the time on each succeeding visit. In some instances, however, in order to obtain lasting relief we have carried the dilation to number 14 F.

When ureteral dilation is carried out in the office I have found that the insertion of a rectal suppository of extract of opium and extract of belladonna, of each one-fourth grain (16 mg.), one hour before examination, together with the local application to the urethra of sodium bicarbonate and cocaine, of each 1.5 per cent., as recommended by Gardner, will produce an ideal preparation for cystoscopy. If the patient is encouraged to drink freely of water for several hours before examination, cystoscopy can be done in his own urine, a procedure that not only

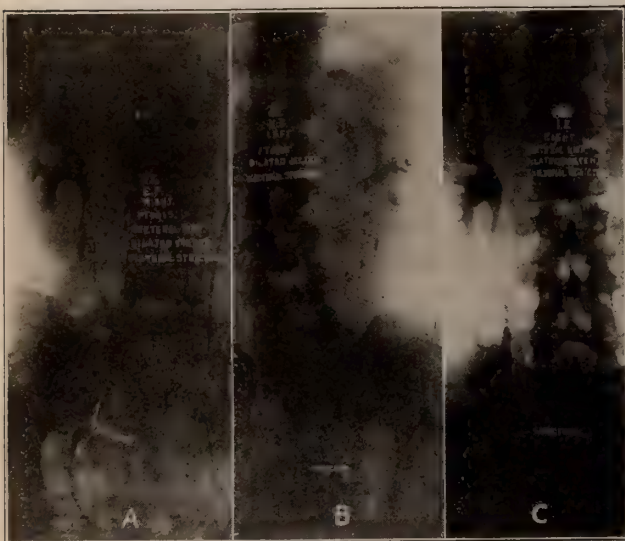


Fig. 7.—A, case 10: right ptosis; ureteral kink; dilated ureter; ureteral stricture. B, case 11: left ptosis; dilated ureter; ureteral stricture. C, case 12: right ureteral kink; dilated ureter; ureteral stricture.

tion the patient had pain radiating down into the right testicle and no where else.

*Other Symptoms.*—Of the other symptoms by far the most important and constant are the gastrointestinal. There may be gas distension, constipation, anorexia, nausea, vomiting, mucous colitis or diarrhea. Associated with these there is often a feeling of depression, irritability and restlessness. The patients are chronically tired and want to rest frequently. Mentally they often are dull and apathetic, their sexual powers are diminished and they have to drive themselves in order to accomplish their work.

*Diagnosis.*—While our attention was first called to this clinical entity by Hunner, the consensus



shortens the manipulation but lessens the possibility of carrying infection into the bladder.

#### CONCLUSION

I believe ureteral stricture, whether congenital or acquired, to be the cause of upper urinary tract infection in a large group of cases. Its early recognition will save many kidneys from destruction and removal.

One must constantly bear in mind that the ureter is one of the most delicately constructed organs in the body. If we are to be successful in our endeavor to promote good drainage, care, gentleness and patience must be foremost in our thoughts.

30 North Michigan Avenue.

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## THE CLINICAL OBSERVATIONS OF GONORRHEA IN THE MALE

(BASED ON AN ANALYSIS OF ONE THOUSAND CASES)

LEON M. BEILIN, M. D.

CHICAGO

This article deals with one thousand consecutive cases of gonorrhea in the male, investigated and treated at the clinics of Illinois Social Hygiene League of Chicago. I hope the following data and deductions may prove both interesting and useful from clinical and administrative standpoints.

Statistics on venereal diseases generally are

greatly at variance and are to be regarded as accurate and utilizable only in so far as they are based upon sufficiently large clinical data extended over a considerable period.

The figures here presented are contained in the Sixth Annual Report of the Illinois Social Hygiene League of Chicago, and deserve serious consideration and study:

Disease:	Men Only		Women and Children		Totals	
	1926	1925	1926	1925	1926	1925
Syphilis .....	386	326	285	243	668	569
Gonorrhea .....	1255	1209	275	210	1530	1428
Chancroid .....	14	4	0	1	16	5
Non-venereal .....	241	201	153	112	394	313
Total .....	1896	1740	715	575	2608	2315
Social State:						
Married .....	419	407	407	321	826	728
Un-married .....	1474	1333	308	254	1782	1577
Total .....	1893	1740	715	575	2608	2315
How Infected:						
Prostitute .....	567	458	0	0	571	458
Street Walker.....	321	401	0	0	327	405
"Friend" .....	524	394	124	130	718	520
Wife or husband..	61	33	309	286	370	403
Accidental .....	0	0	0	0	0	0
Congenital .....	2	0	83	50	85	0
Unknown .....	418	454	113	103	531	557
Total .....	1893	1740	715	575	2608	2315

We may note a general increase of venereal patients (12 per cent), also, that men infected by "Friends" have increased thirty-three per cent, while women infected by "Friends" have increased almost fifty per cent.

The full significance of these figures is emphasized by the well known tendency on the part of venereal patients to prevaricate willfully or ignorantly. Married patients often deny their extra conjugal derelictions and will imply that their infection is of marital origin. Examinations of their wives, however, often will prove the untruthfulness of their statements.

AGE OF PATIENTS						
Under 20	20-25	25-30	30-35	35-40	Over 40	
yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.
11%	38%	24%	13%	8%	6%	

The greatest incidence of gonorrheal infection is between the ages of 20 and 25. The average age of patients treated is 23.4 years. There is a beginning of decline after the age of 25, which probably is due to marriage, a more intelligent use of prophylaxis, or an added experience in choosing sex partners.

#### USE OF ALCOHOL

Heavy drinkers .....	41%
Moderate drinkers .....	48%
Occasional or abstainers.....	26%

It is obvious that these figures do not furnish

very much data on the true influence of alcoholic indulgence on the incidence of gonorrheal infection. Some patients will deny their alcoholic habits for fear of adding an additional stigma to their depravity, while others may be prompted to advance falsely their being drunk as an ethical excuse for acquiring the infection. Besides, patients' judgment as to what constitutes heavy, moderate and light drinking is rather variable.

#### INCUBATION PERIOD

2 days or less	3 days	4 days	5 days	6 days	7 days	8 days	Over 8 days
14%	17%	13%	14%	10%	10%	5%	17%

In one case the incubation period was eight hours; in sixteen cases over four weeks and in one the last known exposure occurred over two months previously. The foregoing table shows a great variation in the incubation period. Clinical evidence is against less than forty-eight hours incubation time in any new infection of gonorrhea. Previous to that period the disease is due to an exacerbation of an old gonorrheal condition or to a previous sexual contact.<sup>1</sup> When the incubation period is unduly prolonged (and according to Professor Asch of Strassburg, an incubation of four to eight weeks is by no means uncommon)<sup>2</sup> it is presumably due to greatly increased resistance of the individual to the invasion of a mildly virulent strain of gonococci.

The factors that tend to prolong incubation in gonorrhea, whether it is the virulence of a particular strain of gonococci or the resistance of the individual, still remain largely in the domain of speculation. We believe, however, that one attack of gonorrhea renders an individual more susceptible to subsequent infection, as can be evidenced by a shortened incubation period in each succeeding infection, unless many years have elapsed since the cure. It may be noted in this connection that gonococci grown artificially do not show this wide variation in the time of appearance of the growth. They follow a definite life cycle, the stages of which are readily influenced by the slightest changes in the culture media, i. e., the more suited the media, the shorter is the period of appearance of the growth. When the urethral mucosae of animals are inoculated experimentally, discharge usually appears within twenty-four to forty-eight hours.<sup>3</sup>

#### NUMBER OF ATTACKS

First attack .....	680 cases
Second or more .....	320 cases

**Complications.** Of complications of acute anterior gonorrheal urethritis in the male, the most common is the posterior urethritis. The usual observation is that from sixty to eighty per cent of all gonorrhea patients treated at a clinic develop posterior complications. This may seem a very high percentage which may be lower in a private practice where patients are in more ideal environment and under better control. In a workingman's clinic a large percentage of our patients is engaged in heavy manual labor without a proper dietetic or sanitary regime, with no facilities for regularity of treatment. Statistics of involvement of posterior urethra in the course of treatment of acute anterior urethritis are in general very misleading. Strictly speaking, the extension of inflammatory process to the posterior urethra should not be regarded as a complication of this disease. It does not seem logical that a mere muscle bundle, a sphincter, that controls fluids from passing forward or backward can limit the spread of gonococci that advance in the submucous layer of the urethra. It is reasonable, therefore, to assume that it is the exceptional case in which the posterior urethra fails to become infected. The ensuing posterior urethritis may be quite mild and symptomless and may often escape detection by the usual clinical and laboratory methods. Some authorities<sup>4, 5</sup> maintain that the posterior urethra becomes involved in all cases of urethritis and they ridicule the idea that posterior urethritis should be called a complication of anterior. They hold that we might as well call anterior urethritis a complication of gonorrhea of fossa navicularis, or of gonorrhea of a woman. It is wise, in my opinion, to consider that all cases become posterior and treat them accordingly.

**Epididymitis.** The incidence of epididymitis in the course of gonorrhea is variously estimated. MacDonagh<sup>6</sup> states that fifteen per cent of acute urethritis cases develop epididymitis, Luys twenty-five per cent,<sup>7</sup> and Belfield<sup>8</sup> ten per cent. Our records of 1,000 cases show that epididymitis has occurred in 11.8 per cent of all cases of acute gonorrheal urethritis.

The First Attack				The Second Attack			
Right	Left	Both	Total	Right	Left	Both	Total
30	47	5	82	19	13	4	36

Twenty-nine of the patients had epididymitis on admission, while eighty-nine developed it on treatment. Epididymitis, like all complications



of gonorrhea, is more apt to occur during the first attack than subsequently. A large number of our patients continue to work while having epididymitis. It is to be regretted that so little of free hospitalization is available to the epididymitis patients and they are often in dire need of beds and hot fomentations.

*Prostatitis, Vesiculitis, Etc.* As gonorrhea is primarily a disease of sub-urethral glands and not of the muscosa, we find that littritis, cowperitis, prostatitis and vesiculitis are essentially features of this disease and are of more frequent occurrence than is generally supposed. Belfield<sup>a</sup> believes that the vesicles, for instance, are involved in a majority, if not in all, cases of gonorrhea and that gonococci may inhabit the vesicles just as diphtheria bacilli inhabit the throat or typhoid bacilli the gall bladder, long after the symptomatic recovery, and the patient unwittingly continues being a gonorrhea carrier, even in the absence of any urethral discharge.

Of gonorrheal cases examined and treated at this clinic, twenty-four showed evidence of prostatic involvement, as follows:

First Attack				Second Attack			
Right	Left	Both	Total	Right	Left	Both	Total
16	54	88	158	19	32	30	81

The most serious of all gonorrheal complications, namely, gonorrheal arthritis, has occurred in 1.8 per cent of our cases.

SUMMARY OF CASES

Patients treated .....	1,000
Discharged as apparently cured.....	346
Transferred to hospital .....	16
Still attending .....	72
Ceased to attend*.....	562
* (a) after one or two visits.....	212
(b) after three or more visits.....	350

Two hundred and seven patients, who have ceased to attend this clinic, left after receiving prolonged treatment and many of these apparently were clinically cured, but have failed to figure in the list of "cures," not having received the final test. It is common experience in all clinics that a certain number of cases will fail to continue with the treatment after one or two visits. Others will discontinue their treatment after a varying number of visits and a smaller percentage of cases will continue attendance until discharged as cured. Our experience at this clinic is no wise different. The causes are varied. Some change for a private physician or other clinics, some leave town and still others wilfully or ignorantly neglect treatment.

My observation, regardless of the success achieved, reveals that some patients will continue to wander from one clinic to another and from one physician to another, so thankless is the task of treating gonorrhea.

*Duration of Treatment.* In estimating the duration of treatment (two clinic visits per week are taken as a standard, though no regularity of attendance is often observed) we find that the average number of clinical visits per patient was fourteen. The minimum time required to render the discharge free of gonococci was four days, the maximum 332 days, the average being forty-four days. The study was controlled by frequent microscopic examinations of the discharge. No attempt is made at this clinic to achieve a time record. In studying these cases, I find that it is not feasible to set a time limit for keeping gonorrheal patients under observation and control. Prolonged observation of gonorrheal patients after an apparent cure is just as essential as in cases of syphilis. The test of time is all important in supplementing other methods of establishing a cure.

*The Cure.* As the problem in venereal clinics is concerned mainly with that of infectivity, the word "cure" is used largely to denote the cessation of infectiveness. There is no fact or combination of facts, clinical or laboratory, known at the present time which may be regarded as conclusive evidence of a cure of gonorrhea in the male. The determination of a cure rests entirely upon the skill and experience of the clinician making the examination. At the All-American Conference on Venereal Diseases, held at Washington, D. C., in 1920, the following resolution was adopted:

"Resolved that with our present knowledge it is not scientifically or medically practicable to establish a standard for determining when gonorrhea is cured."

Clinical data will continue to form the basis of any standard of cure in gonorrhea in preference to any method that a laboratory can offer us. In general some standards are too low, while others are too high and patients will not submit to them. Those who do submit become miserably introspective, suffering all manner of symptoms and complexes and constantly interpreting these for themselves, often with much originality.

We have endeavored at this clinic to establish some reasonable and workable standards for the determination of an apparent cure of gonorrhea in the male, standards which are largely in conformity with the rules formulated by the Sanitary Code of the Chicago Department of Health. Our standards of cure are as follows:

1. There should be no meatal discharge after cessation of treatment.

2. The urine should be free of shred and filaments. (Shreds, if present, continue to float at least for two minutes after the agitation of fluid has ceased).

3. Examination of prostates and vesicles should be negative and the expressed discharge free of gonococci and pus.

4. The passage of a sound of adequate size should reveal no strictures, enlarged periurethral glands, nor provoke any reaction.

5. Provocative injection, deep instillation of silver nitrate one percent solution, or protargol five per cent solution, and subsequent microscopic examination of discharge should prove negative.

6. Negative gonorrheal fixation test.

After disappearance of all symptoms, the patients should be kept under observation for at least two weeks.

*Treatment.* The treatment of gonorrhea is one of the most difficult problems in medicine. Those of us who have had the opportunity to observe the treatment of this condition in the army, dispensary practice and private offices, will agree that although much progress has been made in recent years in the treatment of gonorrhea, we are still a long way from the ideal. Our present day treatment of gonorrhea is still largely empirical, as in the last century.

For centuries the medical profession was dreaming of curing gonorrhea through a direct gonocidal action of some chemical, though this is entirely contrary to the whole rationale of this disease. If the urethra were a simple tube, without glands, crypts or rugae, it would be an easy matter to devise some washout which would speedily cure this condition. Unfortunately, nature does not work in this fashion and by the time urethral discharge has made its appearance, the gonococci have already penetrated beneath the surface of the mucous membrane, invaded the glands of Littre and the crypts of Morgagni and have entrenched themselves safely beyond

the reach of any antiseptics that will penetrate the deep urethral structures, without injuring the urethral mucosa. Failure to recognize this fact and persistence in the use of local treatment to the point of irritation is often responsible for many cases of chronicity in gonorrhea.

There is no ideal drug in the treatment of gonorrhea, for the present at least, since the same chemical action that forms a metal protein compound of the microplasm also will form a metal protein compound of the protoplasm, and the same force that oxidizes a microorganism also will injure the tissues. Any drug that exerts a parasitotropic action on the gonococcus also will have an organotropic action on the tissue of the host. We must confess, that in our arduous search for specifics, we have often sinned against the cardinal warning: *nil nocere!*—and instead of treating the disease we have maltreated the patient. We must not forget the *vis medicatrix naturae*, and it is always better to leave the urethra alone, at peace, especially in the acute stages of a disease, adopting a policy of "*laissez faire*," than treating it "*cum furore*." Some patients have a remarkable resistance against germ absorption and will make a rapid recovery under almost any form of treatment, or perhaps, without treatment, while there are cases in which a total cure cannot be obtained, no matter what method of treatment is instituted. We have frequently observed that there are types of gonorrheal infection that at first respond well to a certain type of treatment, but later fail to do so, just as there are infections that do not respond to a given drug at first, but its persistent use will eventually break up the resistance of gonococci and force them to capitulate at the end. Undoubtedly we are dealing in this instance with a case of acquired or relative immunity, for were it an absolute or natural immunity there never would be a response of gonococci to the drug.<sup>9</sup>

It can be justly said that there is hardly a drug or combination of drugs that has not had its advocates and opponents in the treatment of gonorrhea. Each urologist lauds his pet drug today and may discard it tomorrow for another would-be specific. Only those drugs that have been tried and have withstood successfully the test of time are entitled to their rightful consideration.

On theoretical and experimental grounds, the



silver salts, especially their colloids, seem best to comply with all requirements and desiderata for an efficient gonococidal, though we observe no conformity of opinion on the part of urologists as to the efficacy of various preparations. The commercial houses, taking advantage of this, have flooded the market *ad libitum* with a great variety of chemicals for the treatment of gonorrhea. It has been estimated<sup>10</sup> that there are forty-five silver preparations advertised to the medical profession at the present time, for alleviating the ills of gonorrheal patients. These are commercial butterflies—beautiful to look at, but of little use otherwise.

Recent investigations of Schwartz and Davis<sup>11</sup> at the Brady Urologic Institute of Johns Hopkins University on the action of various drugs on gonococci brought out the following data:

1. Silvol, argyrol, protargol, cargentos have definite, but not high germicidal value against gonococci.

2. Phenol, tricresol, potassium permanganate, zinc sulphate, boric acid have too little germicidal value against gonococci to be useful as germicides in urethritis.

3. Chlorazene has a moderate germicidal value.

4. Potassium mercuric iodide has a high germicidal value against gonococci,—1:40,000 solution kills the gonococcus in twenty minutes.

5. Potassium permanganate in 1:4000 dilution fails to kill gonococcus in twenty minutes.

Introduction of aniline dyes, such as mercurochrome-220, acriflavin, tolulene-diamine, diazene-black, methylene argochrome, picric acid, etc., did not aid materially our gonorrheal therapy. Hugh Young, the discoverer of mercurochrome-220, has recently stated<sup>12</sup> that, in spite of the high test-tube activity of solution of mercurochrome-220, results obtained by the local use of these solutions in acute gonorrhea have not been vastly superior to the intelligent use of other drugs, particularly silver salts, while Van Lockum at the Mayo Clinic reports that mercurochrome-220 is most effective when used alternately with argyrol.

The use of acriflavin in its various forms in the treatment of gonorrhea is less extensive today than during the post-war period. In Great Britain, Colonel Harrison,<sup>10</sup> Watson,<sup>13</sup> and others obtain good results in acute gonorrhea with

urethro-vesical irrigations of 1:3000 solution of acriflavin in a normal salt. Herrold & Culver,<sup>14</sup> advocate injections *per urethram* of a two-tenths per cent solution of acriflavin in gelatin, claiming that they are better tolerated by the urethral mucosa than much weaker aqueous dilutions of this drug.

The discovery of salvarsan has stimulated a search for a similar drug in the treatment of gonorrhea. Salvarsans, mercurochrome-220, acriflavin, urotropin, etc., were used intravenously by various investigators. Of fourteen cases of acute gonorrheal urethritis treated at my office by intravenous injection of urotropin according to the method of Sirota<sup>15</sup> (5 c. c. of 40 per cent solution of urotropin every second day for six to eight injections), nine showed the presence of gram-negative intracellular diplococci in their urethral discharge on the eighteenth day of treatment, two had mucoid discharge, with no bacteria and three cases were free of any meatal discharge.

In an attempt to find a new line of attack, vaccines, serums, enzymes, foreign proteins, grape sugar, diathermy, etc., were added to our gonococccidal armamentarium and are being widely used by the medical profession with a view of increasing bodily resistance to the invading organism.

MacDonagh,<sup>6</sup> of London, the iconoclast among present day urologists, has abandoned all local treatment in acute gonorrhea and employs only an intramuscular injection of manganese butyrate, contramine and detoxicated vaccines. Janet,<sup>16</sup> on the other hand, claims that his results with vaccines are no better than those obtained with irrigation of potassium permanganate alone. David Watson<sup>13</sup> considers that the ordinary vaccines are dangerous in prolonging convalescence and are making the treatment of chronic infections more difficult.

I believe that the use of gonorrheal vaccines in this country is less extensive now than formerly. Both gonorrheal serum and vaccine are omitted from the "New and Non-Official Remedies," as in the opinion of the Council of Pharmacy and Chemistry there is not sufficient evidence to show that they have any therapeutic value. It appears that the pendulum in the gonorrheal therapy swings again to the right—to the more conservative methods of attack.

"Vaccine therapy" says Eyres "is but an immature and imperfect attempt on the part of mere humans to imitate the reparative methods of Dame Nature."<sup>17</sup>

My own observation on the vaccine therapy in neisserian infections has convinced me that there is an element or elements in it that we still do not understand, and until this unknown factor is eliminated there will be but little progress made in the field that Sir A. E. Wright has opened for us. Wright's prediction that the physician of the future will be "an immunisator" has not yet been fulfilled, at least in the field of gonorrheal therapy.

The full evaluation of the non-specific proteins and of diathermy in the treatment of gonorrhea in the male cannot be made at this time. My observation is that their chief field of usefulness for the present lies in the treatment of some gonorrheal complications, especially acute epididymitis.

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520 Rush Street.

## SPONTANEOUS CEREBRAL AND MENINGEAL HEMORRHAGE IN YOUNG ADULTS

LEROY H. SLOAN, M. D., and CHAS. L. BIDWELL, M. D.

CHICAGO

Subdural, subarchnoidal and intracerebral hemorrhage, as the result of trauma, is a common condition. Subarachnoidal and subdural hemorrhage associated with and dependent upon arteriosclerosis, senile vascular change, syphilis, lead poisoning, purpura, scurvy, leukemia, pernicious anemia, chlorosis, less often tuberculosis and rarely in congestive heart failure, is sufficiently well known not to warrant description. Spontaneous meningeal or cerebral hemorrhage in healthy young adults is of such spectacular onset, such serious import and of such increasing frequency as to suggest at least a more careful consideration than is assigned to it in the ordinary text-book of medicine or neurology.

In the literature one finds this type of cerebral pathology described under various titles, i. e., pachymeningitis hemorrhagica interna, spontaneous subarachnoidal hemorrhage, etc.

It is reasonable to suppose that the title given has been dependent upon the pathology actually present or supposed to be present in a particular case. However, the pathology present in spontaneous hemorrhage of the type here discussed may vary from the well-known rupture of a small congenital arterial aneurysm near the circle of Willis in a young person to the bleeding capillary in the pseudomembrane found characteristically in the more chronic condition of pachymeningitis interna in older people.

The delicate subdural and subarachnoidal pseudomembrane with its numerous capillaries of large size was described years ago in pachymeningitis interna. It was thought that an antecedent inflammation gave rise to the development of this membrane and hemorrhage was secondary thereto. This popular view has not received universal acceptance and will not explain many cases of spontaneous hemorrhage. By others the hemorrhage has been regarded as primary and the membrane secondary.

It is obvious that a hemorrhage of spontaneous type may be localized to a small area, spread over considerable area of the brain sur-



face or may involve an area of the brain and an area of the spinal cord at the same time.

Recent experimental work has shown that two types of hemorrhagic membrane may be produced, a nontraumatic idiopathic or vascular type with its network of capillaries which may approach the size of large blood vessels, and secondarily a traumatic reactive type characterized by irregular blood spaces which anastomose. This latter type is *preceded* by a subdural hemorrhage.

As noted previously, certain cases of spontaneous meningeal or cerebral hemorrhage are due to congenital aneurysms, syphilitic vascular changes, blood diseases, tumors, etc. There remains, however, a group of cases which is of decided importance and in which there is *no single factor of definite etiological relationship*. In this group, *trauma plays no part*. It is foolish to assume, as has been done, that such hemorrhages in or on the brain are due to previous "unrecognized trauma" of slight degree.

More attention is being paid to brain injuries during delivery and in infancy to subarachnoidal, subdural and cerebral hemorrhage in relation to the early and late development of convulsions, epilepsy and the like. But even here there is an underlying factor which is certainly not traumatic for while it seems true that such hemorrhagic disease is more common in instrumental labor, it does occur in spontaneous labor, may occur after a very easy instrumental delivery, and frequently is not seen after an extremely difficult, prolonged operative termination of labor.

The clinical picture of meningeal hemorrhage in infants with vomiting, rigidity of the neck, hypertonicity, twitchings, hyperesthesia and retinal hemorrhages has been well described in the literature. Retinal hemorrhage in the meningeal hemorrhage of adults is not so common but does occur and may present the picture of an associated bilateral thrombosis.

Whether the bleeding is directly attributable to diapedesis, toxic or inflammatory injury to the vessel wall, or actual rupture is only to be surmised in the absence of careful pathologic study and not infrequently even then.

Recently attention has been directed to the severe symptoms of meningitis which may follow spinal puncture and to the meningeal pic-

ture produced by spontaneous hemorrhage by Spiller and Payne.

#### CASE REPORT

The following case shows the characteristic clinical picture produced by idiopathic, spontaneous, meningeal hemorrhage in a perfectly *healthy* young adult.

W. B., aged 24, was perfectly well until three o'clock in the afternoon of June 9, 1923. He had had no sore throat, sinus infection, headache, dyspnea, edema of the ankles, and no evidence or history of cardiovascular disturbance or renal disturbance. He was well known to both of us and there was no history suggestive of any cardiovascular or vascular disease. Suddenly while walking along carrying a pail and about to step up on a car, he was seized with a terrific basal occipital headache, so severe that he could not see a thing. He could not raise the left leg, sank to the ground, and grasped his head in his hands. He was carried to a small yard office, vomited several times and lapsed into unconsciousness.

Examination that night showed a young adult acutely ill, but conscious and able to answer questions. The scalp showed no evidence of cranial injury as also the skull. The pupils were widely dilated and reacted slowly to light; visual acuity good. The teeth showed no infection and the gingiva no line or other evidence of pathology. The tonsils and pharynx were not inflamed. There was no discharge from the nose or the posterior nasopharynx. The neck was somewhat rigid both anteroposteriorly and laterally. The lungs showed no active peripheral pulmonary pathology. The heart was entirely normal. The abdominal and lumbar musculature was hyperesthetic. The patellar reflex on the left was questionably increased, the Achilles reflex somewhat more active on the left, and there was an equivocal plantar response on this side. The temperature was 101, pulse 100 and respiration normal. Morphine was given with little effect. Careful questioning failed to elicit any history of colic, constipation, wrist drop, weakness, or of any sign or symptom even remotely suggestive of lead poisoning with lead meningitis.

Early on the following morning the patient still had a terrific basilar headache, temperature of 100, and was acutely sick. The pupils were dilated, no loss of sight, neck rigid, opisthotonus present, and a left plantar extensor. There were also present a bilaterally positive Kernig sign and involuntary twitchings in the lower left leg and foot. Spinal puncture was done and 45 cc. of a uniformly bloody fluid withdrawn. The fluid was under great pressure. There was instant relief of the symptoms. The patient became quiet, headache improved and shortly thereafter went to sleep. On the same day an acute urinary retention developed which yielded to ordinary treatment. On the following day the patient again showed the picture of extensive meningeal irritation. Spinal puncture with removal of 30 cc. of bloody fluid again gave relief. On alternate days spinal puncture was done with removal of 30 cc. and 20 cc. respectively of a decreasingly bloody fluid.

The spinal fluid at each removal was uniformly bloody and under great pressure. Cultures on ordinary and special media gave no growth. There was no relative increase of polymorphonuclear cells judged by the comparative blood and spinal counts. The spinal fluid and blood Wassermann reactions were both negative. The white count on the second day was 18,000. Careful examination of blood smears showed no trace of stippling. The hemoglobin was normal and there was no anemia. The temperature ranged between 100 and 101, but came down rather rapidly after puncture. Fourteen days after the initial symptoms the patient was up and about apparently recovered except for a slight residual rigidity which persisted for some time.

This patient has now been followed for four and one-half years, an adequate time for the development of evidence of specific cerebral pathology, vascular pathology and tumor. At the present time he is, so far as one can determine on examination, perfectly well. We, therefore, have a healthy young adult who suddenly for no reason whatsoever develops the characteristic picture of severe meningeal irritation due to a spontaneous subarachnoid hemorrhage, filtering down over the right cerebral cortex and the spinal cord.

During the residence of one of us (L. H. S.) at the Cook County Hospital, there was brought to the ward a young, well-nourished, adult colored girl complaining of a severe headache, nausea and vomiting, and showing all the classical signs and symptoms of a well advanced meningitis. The Kernig sign was more marked on the left, as were also the Achilles and patellar reflexes. There was a bilateral plantar extensor response. On admission 40 cc. of a uniformly bloody fluid were removed. The next day a like quantity of fluid of similar character was removed. Daily puncture thereafter gave a fluid of the same type. Five days after admission a left hemiplegia suddenly developed preceded by irritative signs. At autopsy the source of the bleeding was found to be in an angiomatous tumor of the brain. Blood filtering down over the cerebrum and spinal cord had produced the clinical picture of a most severe meningitis. There was no history of trauma in this case.

While the exact pathology present in the case herein reported is unknown, the clinical picture and symptom complex produced by this spontaneous cerebral and meningeal hemorrhage in a perfectly healthy young adult male conforms closely to the non-traumatic, spontaneous pachymeningitis hemorrhagica interna of the literature.

More recently one of us has seen such an idiopathic spontaneous subarachnoid hemor-

rhage in association with a bilateral retinal thrombosis.

The diagnosis is made upon the "brutal onset," the severe picture of meningeal irritation, and the finding of a uniformly bloody spinal fluid under increased pressure. One should remember that days after such a hemorrhage the spinal fluid gives evidence of the condition present.

As regards treatment, early and repeated lumbar puncture is indicated with spinal pressure readings sufficiently often to form an idea of the intracranial pressure. Every effort should be made to discover an etiologic factor on which to base a rational therapy.

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#### TOXEMIAS OF PREGNANCY\*

JOHN OSBORN POLAK, M. D.

BROOKLYN, N. Y.

When we consider that 29 per cent. of our stillbirths and macerates are the result of toxemia and that 27 per cent. or more of the women who die during pregnancy or in childbed die from toxemia, convulsions or their sequellae, it is evident that there is no uniform teaching on this subject, and that too much surgery is being

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done on a medically sick patient. It is, therefore, my purpose in this discussion to consider the known clinical facts in hyperemesis, pre-eclampsia, in contra distinction to pregnancy occurring in the nephritic women and in eclampsia with its convulsive explosions, in order that the practitioner may better understand the present status of this baffling subject. It may be said that pregnancy is the great efficiency test of the workings of the maternal organism; for the fetus and the uterus in their growth call for such adaptative changes in all the important organs of the mother that unless there is perfect and harmonious efficiency on the part of all of the organs called upon in the development of the fetus and uterus, the load cannot be carried. The pituitary, thyroid and parathyroids all become activated, ovulation ceases and more work is demanded of the liver, kidneys, lungs and heart. Therefore, it is easy to deduce that incompetence on the part of any organ must shift the load to the others with resulting defect in the body metabolism. The toxemias of pregnancy present the most striking examples of maternal mal-adaptation to the needs of the fetus and fetal growth. The very fact that nausea and vomiting of greater or less degree occur in more than 50 per cent. of pregnant women may be considered as inevitable evidence that there is a temporary disturbance of the physiologic balance. This has been accounted for by the relative carbohydrate deficiency due to the unexpected demand for glycogen on the part of the fetus, and to the actual deficiency occasioned by the nausea, vomiting and the consequent lessened intake.

With these facts demonstrated it takes but little imagination to appreciate that by lack of care, marital indiscretions, improper hygiene and dietetics, this vomiting which is so common in the early months may be aggravated to a degree which will take large quantities of fluid out of the body tissues resulting in dehydration. The actual fluid loss from emesis in patients who have had no fluid intake by os, varies between 1000 and 2000 cc. per diem. Such a fluid loss repeated day after day, quickly dehydrates the woman and produces the clinical picture of dehydration which is so familiar to you all. The rapid emaciation, the dry coated tongue, dry cracked lips, increasing pulse rate, diminished urinary output and lowered blood pressure.

Rapid emaciation is further augmented by starvation, and we find the following clinical phenomena result: The blood pressure is lowered, the pulse gradually increases in rapidity, the urinary output is diminished; while there is a concentration of the body fluids and an increase in the carbohydrate deficiency as more and more glycogen is abstracted from the liver, in order to carry on life. Together with these signs the leucocyte count is usually diminished and an icteric hue tinges the conjunctiva. It may, therefore, be deduced that the pathology found in the liver and kidneys is a result of a retention of toxic products consequent upon the dehydration and the glycogen deficiency. Certainly the final pathology in the liver is identical with that found in patients dying from starvation. This deduction is supported by the fact of the rapid subsidence of hepatic and renal symptoms when the uterus is emptied or when diuresis is produced.

Mundell studied the blood chemistry in a series of 52 normal pregnant women at the different months of pregnancy beginning with the second and ending with the ninth. This study shows conclusively that there is very little actual change in the blood chemistry except in the nonprotein nitrogen and uric acid contents. The normal blood seldom contains more than 3 mg. of uric acid to 100 cubic cc.; while the nonprotein nitrogen rarely exceeds 30 mgs. In excessive vomiting with dehydration and rapid emaciation, the uric acid reaction is always slightly increased. Another significant point is, that the blood sugar maintains its normal ratio in the pregnant woman until about the end of the third month or about the time when placentation takes place, at which period we note a sharp drop in the sugar content; while toward the end of the fourth month and the beginning of the fifth the ratio again seems to be established on a normal basis. This point to the disturbance in the carbohydrate fat ratio as the basic factor in this disease. It is on the acceptance of these facts that the adoption of the suggestions of Harding and Titus have proved their clinical value. The intravenous use of large quantities of a properly prepared glucose solution replaces the sugar deficiency and allows the proper function of the liver to carry on.

Roger, Davis and Whipple have shown that starved animals are especially susceptible to liver

injury; while by increasing the carbohydrate intake the liver resistance is increased.

At the research laboratory of the University of Minnesota, liver tolerance has been most exhaustively studied. It has been found that it is possible to remove four of the seven lobes of a dog's liver, and by giving such an animal daily injections of a glucose solution his health will in no way be impaired. On the other hand, if no glucose is given, his susceptibility to injury, dietary indiscretions or exertion are very manifest.

In mild cases of early vomiting the patient should be impressed with the necessity of re-vamping her mode of life, her dietetics and her hygiene. Perhaps the most important of these is her sex hygiene—it is imperative that marital abstinence *be insisted upon*; that malpositions of the *pelvic organs be corrected*; that the constipation be relieved—and in addition to these fundamentals, that the amount of carbohydrate as well as fluid intake be increased to the point of greatest tolerance. The copious ingestion of water should be encouraged—usually in the form of a bland or alkaline water (Poland, Kallax or Celestin Vichy) *at least two quarts of water must be taken daily*. To meet the carbohydrate deficiency, we insist upon increased intake of carbohydrates in the form of cereals, fruit, fruit juices with sugar, puddings, chocolate or candy.

These general principles should be supplemented by rest in bed after meals, and the internal administration of small doses of thyroid extract. Should the vomiting persist and the patient lose weight, rest in bed *with absolute isolation is to be insisted on*; and the fluid loss made up by the hypodermoclysis, enteroclysis and the intravenous injection of glucose solutions amounting to 1000 cc. of 10 per cent. solution daily until diuresis is produced.

In 1924 and 1925, Thalhimer extended his treatment of post-operative nondiabetic acidosis to include cases of toxic vomiting of pregnancy. Briefly, the method consisted in the intravenous administration of about 1000 cc. of warm 10 per cent. glucose solution at the rate of from 200 to 300 cc. an hour. In addition, fifteen minutes after the injection has been begun, 10 insulin units is given hypodermically. More insulin is given at intervals of an hour, until 30 units to the thousand cubic centimeters of glu-

cose solution has been given. Although Thalhimer gave due credit to Titus, Hoffman and Givens, and to Duncan and Harding, who had administered glucose alone in cases of this sort, his method of combining insulin with glucose has not given better results than did glucose alone. If this treatment is successful, the pulse will become slower and fuller, the blood pressure will rise, the urinary output will be increased, and the vomiting will diminish or cease altogether.

When glucose alone or in combination with insulin fails to produce this improvement, I have employed transfusions of 300 cc. of human blood by the direct method, to which is added 500 cc. of physiologic sodium chloride solution. The success of these procedures has been so satisfactory that I have not had to empty the uterus for vomiting in a period of nine years. It must, however, be impressed on the attendant that if, under this plan of treatment properly carried out for a period of a week, diuresis is not produced and the vomiting continues, the uterus should be emptied. As soon as vomiting ceases, the patient should be given solid food with a high carbohydrate content. Should no improvement take place after transfusion, the uterus should be emptied under morphin-scopolamine narcosis.

*Preeclamptic Toxemias:* The situation in preeclamptic toxemias is not the same as in pernicious vomiting, except that they both occur in pregnant women, and that in fatal cases the liver is always seriously involved. In the study by Herrick at the Sloan Hospital, where every toxemia of the latter months is studied by the internist as well as by the biochemist and the obstetrician, they have come to the conclusion that the woman who develops a preeclamptic toxemia or an eclampsia is the woman who starts in on her pregnancy with defective emunctories or an unbalanced endocrine system. It is the result of a dysfunction and improper correlation of the eliminative system and endocrine control in the individual woman. My own study tends to confirm this theory, which has a definite clinical backing. Therefore, *the real clinical questions in toxemia are what physical type of woman breaks down under the strain of pregnancy. What pathological changes does she show before and during pregnancy, and what pathology remains after so-called recovery?*



Women with persistent systolic pressures of 150 and diastolic pressures above 100 at the beginning of pregnancy are not likely to go through pregnancy successfully. A systolic pressure of 140 may be considered hypertension in pregnancy, for the normal pregnant woman has a characteristic arterial hypotension. *The late toxemias of pregnancy represent failure of a defective maternal cardiovascular-renal system to adapt itself to the strain of child bearing.* This is subsequently shown by cardiovascular renal changes evidenced by albuminuria, nitrogen (nonprotein) retention.

I feel certain that eclampsia is not due to any specialized toxin or toxins elaborated by the growing fetus or its appendages combined with the failure on the part of the mother to develop an antitoxin, but rather to the overload suddenly placed on the maternal organism; for the pregnant woman shows a condition of rapid uterine growth and a rapid increase in weight superimposed on an adult organism that has ceased to grow. It is only natural, therefore, that metabolic strains are set up in the mother to meet the demands of the fetus. This results in a disturbance of the metabolic balance, which in turn affects hepatic and kidney function; for it is well known that eclamptic disturbances which characterize the latter half of pregnancy occur at a period of rapid fetal growth at a time when it needs an increased quantity of glucose to maintain it. This in a way confirms the low sugar content of the blood in pregnant women, as well as the increase in the uric acid content of the latter weeks.

Repeated studies of the blood chemistry in preeclamptic toxemias show nothing that is significant or characteristic, except that *when the blood is found to have a decided nitrogen retention, either in the form of nonprotein nitrogen or in uric acid—it may be assumed that nephritis is the predominating factor in the particular toxemia.*

I had expected to find that the basal metabolism rate would be materially changed in the pregnant woman, and be available as a diagnostic sign of some value in the preeclamptic toxemias, but studies of the readings at different periods of pregnancy have proved that the woman who is functionally fully equipped and healthy in the early months has practically no change in her metabolic readings, and that there is slight

though definite elevation of the basal rate in the latter half, returning to the normal after a few days of the puerperium. In the preeclamptic state the readings are slightly higher than normal; this, however, is demonstrated only in the severe conditions. There is little or no difference in the patients with and without a pre-existing kidney lesion, so that antepartum differentiation cannot be made by this test. However, in the nephritic type the reading is apt to remain higher for some time after delivery; which in a way coincides with the blood pressure readings; therefore it may be concluded that neither blood chemistry nor metabolic rate throws much light on the etiology or prognosis. Furthermore, the clinical manifestations, those which may be observed by any keen practitioner, are of greater significance.

*Diagnosis:* The preeclamptic toxemias are usually considered under:

1. The hepatic type, which is commonly of sudden development with a nephrosis, as the kidney lesion without any preexisting history of renal disease.

2. The renal type, in which nephritis is a contributing etiologic factor. The clinical distinction between these two types in antepartum toxemia is difficult to make, though in the former there is no previous history of renal disease, while in the latter there is always some clinical evidence of preexisting kidney lesion. However, after the labor is terminated, the hepatic type is shown by the relatively quick return of the blood pressure and kidney function to normal; while in the renal type it may take months to clear the urine of albumin and casts, and the blood pressure never ranges below 140. The earliest evidences of toxemia are:

1. A rise in the systolic blood pressure.
2. The appearance of an albuminuria coincident with or appearing soon after the occurrence of hypertension.
3. Diminished urinary output—the quantity of urine eliminated falling below 1000 cc.
4. An increase in the body weight beyond the normal 25 pounds.
5. The appearance of edema in the face, hands and feet.
6. Constipation associated with "heartburn" and epigastric distress.
7. Frontal headache.

8. Eye symptoms, ranging from spots before the eyes to amaurosis.

**Blood Pressure:** The pregnant woman whose kidneys are healthy at the time of conception carries a hypotension seldom rising above 120. Progressive readings above this point demand watching. Increasing hypertension during the course of pregnancy at any age points toward the onset of toxic symptoms. Rise in pressure usually precedes the appearance of albumin by days or weeks, unless there is a pre-existing kidney lesion. Coincident with the occurrence of albumin there may be a diminution in the urinary output with or without increased concentration.

**Weight:** The pregnant woman normally increases her weight by about 20 to 25 pounds (9 to 11 Kg.) in the course of pregnancy. The greater part of this increase takes place during the last four months. *Rapid increase is always dangerous*—less so when associated with edema, for edema seems to be a salutary and conservative process which takes the toxins out of the blood and deposits them in the tissues. Eclamptic explosions are less liable to occur when there is edema, especially when the edema forms slowly, than when it is of rapid appearance.

**Headaches:** Frontal headache is one of the later manifestations of toxemia, sometimes the earliest forerunner of a convulsion. Headaches should always be inquired into. They are more common in the nephritic type.

**Gastric acidity** with pain or burning in the epigastrium is another evidence of toxemia which gives warning of impending danger.

**Eye:** Eye symptoms are common in the nephritic type, the fundal and retinal changes having the same appearance as are found in glomerular nephritis. They are usually absent in the fulminating type except for increased tortuosity of the vessels, high arterial light reflex and increased spasticity. Occasionally exudate may be present.

*The treatment of the preeclamptic state and of eclampsia is essentially medical.* The obstetric problem comes in for consideration only when labor is established by the convulsive seizures. Notwithstanding the fact that convulsions cease in 52 per cent. of the cases when the uterus is emptied, we are not justified by the results in any extensive series of clinical observations in making delivery the first considera-

tion in view of the poor surgical risk. Naturally, the treatment of the latter month toxemias resolves itself into:

1. Prevention. One of the greatest strides in preventive medicine has been the antepartum care given to the pregnant woman. It has resulted, in many clinics, in the passing of eclampsia.

2. The control of the convulsion.

3. The management of labor in the presence of convulsions when labor has started.

The preeclamptic toxic patient should be in bed. She should have her nitrogenous intake limited to just enough to sustain life; milk and fruit juices with sugar make up the foundation of her diet. Stimulation of her emunctories should be done by promoting diuresis. This may be done with water and the intravenous use of glucose solutions, except in the cases of edema, when the exhibition of fluids should be restricted and diuresis stimulated by lumbar cupping, ammonium chloride and calcium chloride. The skin must always be kept active. This effect may be secured by having the woman rest between blankets or with the electric baker. To favor surface relaxation the nitrates will add to the efficiency of heat. When no improvement is shown, pregnancy must be terminated in a way indicated by the existing obstetric condition, always keeping in mind that the toxic patient is a poor surgical risk, bearing anesthesia poorly, liable to shock, and more susceptible to infection than her better equipped sister. Haste and trauma must be avoided. *In the presence of convulsions the indications are never surgical.* With the appearance of the first convulsion, the woman should be given (hypodermically) one-fourth grain of morphin sulphate; placed in bed in the Trendelenburg posture, and turned on the side in same position to allow the mucus to drool from the mouth. The tongue must be protected by a "gag"; the bladder is emptied by catheterization. If the pressure is 150 or more, 1000 cc. of blood should be withdrawn. This may be replaced by 500 cc. of a 10 per cent. glucose solution. The morphin is repeated in an hour—and nothing else is done.

Unless the convulsions recur and the supervening coma increases to a degree that the patient remains comatose between convulsions, this condition is an indication for the intravenous use of magnesium sulphate in quantities of 100



cc. of a 25 per cent. solution which has had a mostly kindly effect, diminishing the cerebral edema and controlling the occurrence of subsequent convulsions. This medication may be repeated at intervals of 4-6 hours.

The management of labor in the presence of eclamptic convulsions is based on the three principles of: 1. Avoiding trauma; 2. preventing infection, and 3. diminishing the shock—for the eclamptic patient is a very poor surgical risk.

My plan has been to disregard the labor until complete dilatation of the cervix is obtained when, if the head is engaged and at the spines, delivery may be expedited by the use of low forceps under light oxygen-ether narcosis added to the morphin anagesia.

Section has been limited to those cases in which there was a definite obstetric indication and not employed as a routine for rapid delivery. My experience shows that prevention is the keynote of success; the toxic patient needs active treatment with the first appearance of hypertension; convulsions may be prevented by induction of labor when medical means fail to reduce tension and produce diuresis, and the treatment of eclampsia is essentially medical, and surgical delivery has only a limited field.

20 Livingston St.

## PHYSIOLOGY OF THE STOMACH AND DUODENUM\*

JOHN D. KOUCKY, M. D.

CHICAGO

At one stage of the human embryo, the stomach is a straight tube comparable to the stomach of certain fishes and other lower animals. As the embryo develops the stomach bends on the lesser curvature and an outpouching occurs on the greater curvature which goes to form the fundus. The human stomach is comparatively a simple stomach, as compared with the stomach of the ruminates in which various pouches are so cut off so that there are in reality several stomachs. The human stomach is divided into the fundus and antrum by an indentation on the lesser curvature known as the incisura angularis. The lesser curvature—the least modified part of the primitive stomach—differs from the rest of the organ in that its arteries have the char-

acter of end arteries, its mucosa is more adherent, and in some animals it can contract to form a trough more or less shut off from the rest of the stomach. These anatomical peculiarities may be of some significance in explaining its pathology.

We all know that the stomach lies in the left upper abdomen and extends down and then across toward the right but it might be emphasized that there is no such condition as a dropped stomach or gastro-optosis. The fundus always stays in contact with the left diaphragm. There is however such a condition as a long or atonic stomach but that may be considered normal. Recent studies have shown that many individuals who are apparently perfect specimens of manhood have stomachs whose greater curvature and sometimes the pylorus reach several centimeters below the inter-iliac line.

The stomach wall has three muscle layers—longitudinal, circular, and oblique—the last extending as a sling over the fundus and disappearing near the pylorus. The circular muscle fibers are thickened at the outlet, forming the pyloric sphincter. The mucosa is covered by mucus-secreting columnar epithelium which is pierced by many test-tubelike glands which are lined by two different types of cells—one secreting the hydrochloric acid and the other pepsin. The glands in the pyloric part of the stomach contain no acid cells. This fact should be of great significance to those surgeons who speak of removing the acid-bearing area when the antrum is resected.

Gastric juice in man is a clear limpid fluid containing HCl up to a concentration of 0.5%. In invertebrates it is free of HCl. The chief ferment is pepsin. Rennin, a milk-coagulating enzyme, distinct from pepsin is found in all vertebrates. Nature appears wasteful to have rennin in the stomach of fishes. Gastric digestion consists of mechanical mixing of the food mass into a watery chyme and the breaking up by hydration of the large protein molecules into peptones. Fats and sugars are not changed except that the latter may be acted upon by the salivary ferments until acidulation occurs within the bolus. Absorption from the stomach is practically nil, not even drugs given in high concentration are absorbed. After complete removal of the stomach nutrition is not seriously impaired. In man at times an anemic con-

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dition develops. The function of the stomach is primarily that of storage and mechanical preparation of the food rather than actual digestion.

Since the function of the stomach is chiefly mechanical a knowledge of its mechanics is of the utmost importance. The inlet of the stomach is guarded by the cardiac sphincter. This structure hardly merits the name sphincter for it is difficult to identify anatomically. It is remarkable though how difficult it is frequently to express gas from the stomach in an anesthetized animal. Some have attempted to attribute a sphincter action to the diaphragm. This is probably not true for during the act of vomiting the diaphragm contracts violently.

The movements of the stomach itself depend on the degree of distension present. In the fasting state the stomach shows only slight variations of tonus. This state of rest lasts for an hour or two and then contractions of increasing vigor appear. These contractions come about twice a minute and are the source of the hunger sensation. These so-called hunger contractions are unlike peristaltic waves in that they are more vigorous and more extensive. Emptiness of the stomach alone is not enough to provoke hunger contractions. They are not increased by so-called appetizers. They are inhibited or changed to normal waves by soda or food or many drugs. Smoking is frequently effective in this respect.

In the full stomach contraction waves start in the fundus some distance from the cardia and run uniformly through the pre-pyloric part to the antrum and fade away at or near the pylorus. These waves appear about every twenty seconds and several may be present at different levels at the same time. Mechanical mixing of the food and emptying of the stomach are attained by these waves. Systole of the antrum does occur but it is probably not an important factor in the expulsion of the contents. The exact mechanism of the origin and conduction of these waves is not known. That a hormone factor is present was recently shown by Ivy by the transplantation of part of the stomach. Muscle continuity or intact nervous supply is, fortunately, not necessary, which permits the resection of V-shaped pieces or segments of the gastric wall with none or only slight interference with emptying.

Consideration of the emptying time requires a few words regarding the pylorus. As stated the pylorus is a definite thickening of the circular muscle fibers. This mass of circular fibers is separated from the corresponding layers of the duodenum by a fairly definite ring of connective tissue. Most of the longitudinal fibers also end at this fibrous barrier; some pass and appear continuous with corresponding fibers of the duodenum. The lymphatics of the pyloric end terminate abruptly at this connective tissue barrier. Here we have an anatomic basis for the absence of spread of carcinoma into the duodenum. This anatomic barrier is not a perfect physiological barrier for it seems that gastric waves can excite duodenal waves and duodenal waves influence the tonus of the pylorus.

Many factors in the control of the pylorus are definitely established but its entire mechanism is certainly not known. That a nervous factor is present is demonstrated daily in clinical work. Yet the pylorus functions well with all its nerves cut. The consistency of the gastric contents is of some importance. The fullness or emptiness of the duodenum is a most important factor. The character of the duodenum contents—whether fat, neutral, or isotonic—are other factors influencing the closure of this sphincter. Fats and acid contents close the pylorus. More recently it has been shown that the osmotic pressure of the duodenal chyme may be of as much importance as its acid or alkaline reaction.

Regurgitation from the duodenum into the stomach is a normal reaction when the stomach approaches an empty state. This tends to keep the free acidity low just at the time when the neutralizing influences of the food are disappearing.

A consideration of gastric secretion resolves itself into that of the fasting and digesting stomach. The empty and resting stomach always contains a few cc. of juice—up to a hundred cc. This continuous secretion normally may amount to little but in the diseased state it may be profuse and require treatment.

Digestive secretion may be divided into three phases—cephalic, gastric, and intestinal. The smelling, seeing, and chewing of food provokes a copious flow of juice. This cephalic or appetite secretion is a reflex reaction and section of the vagi abolishes it. The presence of the food in the stomach causes the secretion of more juice and



is known as the gastric phase. Mechanical stimulation of the gastric mucosa, contrary to older beliefs does cause a secretion. Some foods on entering the stomach produce an immediate flow of juice, others only after being acted on by the appetite secretion. It seems that the glands are stimulated by hormones present in the food or produced in it by digestion rather than through a local reflex.

The digestion in the upper intestinal tract also provokes a flow of juice. This may be a reflex reaction but more probably is due to hormones absorbed from the intestines.

Many substances are used clinically to stimulate gastric digestion. Actually the so-called appetizers and bitters depress secretion. Alkalines probably depress secretion, rather than stimulate it, a point of great importance to those who treat peptic ulcer with these drugs.

After this brief outline of normal physiology, I wish to mention changes caused by disease or operation.

A gastric or duodenal ulcer often increases the vigor of the gastric contractions. Emptying time in the earlier stages is shortened. When the lumen of the pylorus is diminished the emptying time is lengthened. Cancer interferes with the gastric waves in proportion to the extent of the destruction and infiltration of the muscle walls. Emptying may be delayed by this loss of motor activity but more often by actual narrowing of the lumen of the pylorus. Gastric activity is also profoundly influenced by the mental state and lesions distant from the stomach, especially those in the peritoneal cavity.

After the Bilroth or Polya operations the stomach, immediately post-operative, empties slowly. When the suture lines are healed emptying is quicker than normal even though the gastric waves are less vigorous than in the intact stomach. After gastroenterostomy the emptying time is also shortened. The food passes through the added stoma only in proportion to the obstruction at the pylorus. The peristaltic waves are diminished. This and the lessened emptying time are probably greater factors in the control of ulcer pain than the factor of increased neutralization of acid.

Gastric secretion varies enormously not only in disease but also in apparently perfect health. In many old people the stomach secretes no HCl. In anemic, cachectic, and asthenic states,

the acidity of the juice is diminished and often absent. Cancer cachexia lowers the acidity and when the cancer is in the stomach actual loss of secretion surface is another factor which tends to lower or abolish the secretion of HCl. In gall bladder disease the acidity is often reduced.

In peptic ulcer the acidity as determined clinically is usually but not always increased. This is not due to a secretion of more than normal acidity but rather to an increased secretion of normal concentration. In a fairly large percentage of peptic ulcers secretion is actually diminished and in a few it is difficult to demonstrate any acid.

Increased secretion occurs with other abdominal lesions—as appendicitis, colitis, and at times gall bladder disease.

After gastro-enterostomy the acidity of the gastric contents as determined clinically is diminished. This as already stated is due to the increased rapidity of emptying and to a lesser extent to the increased regurgitation of duodenal contents.

After the different gastric resections now so vigorously advocated in the treatment of peptic ulcer, about half have no free HCl and in the rest it is markedly reduced. This reduction however is not due to the removal of the acid bearing area, as claimed, for the greater part of the segment removed has an alkaline secretion; but rather to many other factors, among which are: the more rapid emptying of the stomach, diminution of psychic secretion because of lessened appetite, diminution of stimulus to secrete which comes from the intestines since the food is poured into the bowel in an undigested state, and finally, to the greater regurgitation of alkaline juice from the bowel. In extensive resections the acid secretion surface is undoubtedly lessened but this is not the chief cause of the anacidity which frequently follows.

#### INVESTIGATION OF THE STERILE COUPLE\*

IRVING F. STEIN, M. D.,  
Michael Reese Hospital,  
CHICAGO

Sterility always has been a subject of interest to the gynecologist, but until recent years the interest was chiefly in the classification of its

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etiologic factors. The diagnosis of sterility rested mainly upon the passage of a span of years—three or more—without offspring, a bimanual examination of the wife and a condom specimen from the husband. A couple may be sterile at the time of marriage, or may acquire

sists of gynecologist, urologist, internist, and endocrinologist. A conference is held by them every week to discuss the final diagnosis and to decide upon the treatment to be followed. This scheme has proven very satisfactory in their hands. Investigations in sterility have proven

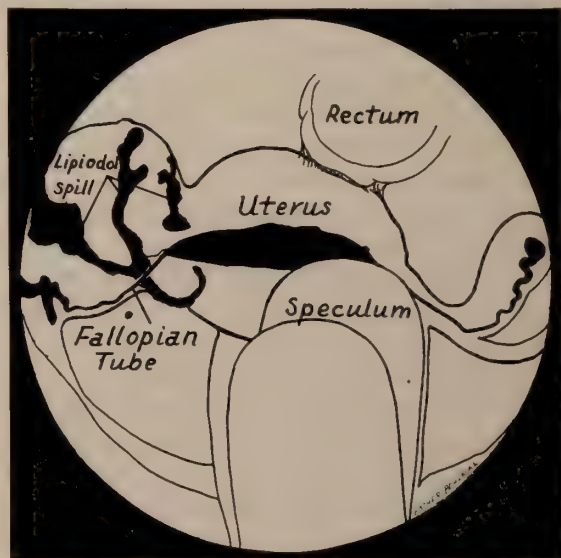
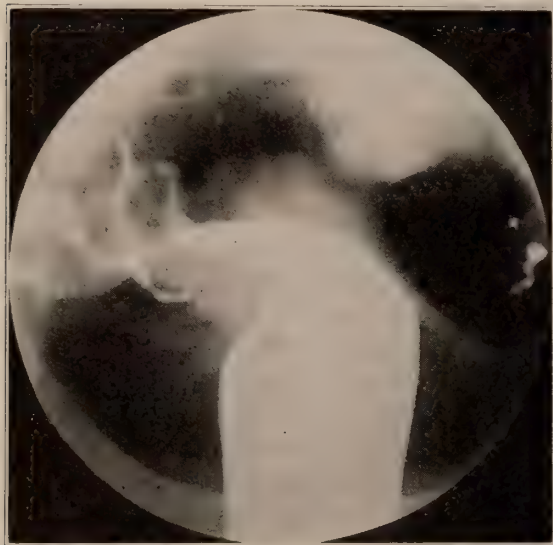


Fig. 1. (Print and interpretive drawing.) Sterility 5 years—history and physical examination negative Post-coital examination satisfactory. Patency test—positive 160 mm. to 120 mm. (high level). Lipiodol

7 cc. instilled into uterus. Roentgenogram—normal status. Beading left tube; profuse "spill" from right tube.

the condition from subsequent causes. To establish a diagnosis of sterility it is not necessary to wait any given number of years after marriage before beginning an investigation. Whenever the couple or one of them presents the question of childlessness it is quite appropriate that an examination be made. The point I feel should be emphasized is that the failure to reproduce be laid to the couple, rather than to either partner, until the actual cause is found. It is only by approaching the subject from a neutral viewpoint that an unbiased opinion can be given.

From 10 to 15 per cent. of marriages are said to be sterile. Of these the male is responsible directly in from 30 to 50 per cent. and indirectly in an inestimable number. From these facts it becomes obvious that a close coöperation between the gynecologist and the urologist is essential in successfully attacking this problem. That the internist and radiologist are frequently called upon, as well, will be seen in the presentation of our cases.

In Boston a group has formed for the complete investigation of sterile couples which con-

far more interesting and fruitful since the advent of Hühner's post-coital examination and the Rubin patency test. I do not test for tubal permeability until I am assured of the presence of normal spermatozoa in the cervical canal. After I am satisfied that the male is competent and the lower genital tract in the female is clear, then the Rubin test is made. The patency test has proven to be more than a diagnostic procedure, possessing some therapeutic virtue as well, and opening up an avenue for the induction of pneumoperitoneum—an additional diagnostic measure of merit. New and interesting work is being carried out which promises to throw additional light upon the question of fertility. I refer chiefly to the vitamine E work of Evans, and the female sex hormone of Frank—substances which apparently have quite similar effects. The fertility studies of Macomber are also noteworthy.

Based upon the significant etiologic factors in the causation of sterility, and following more or less closely the classification of Meaker, we



have adopted the following scheme of investigation of the sterile couple:

# INVESTIGATION OF THE STERILE COUPLE

- I. Male }  
Female } History
  - (a) Past—(venereal)
  - (b) Present
  - (c) Sexual
- II. Male }  
Female } Physical Examination
  - (a) General
  - (b) Local (genital status)
  - (c) Laboratory
    1. Complete blood including
      - (a) Wasserman
      - (b) Sedimentation
    2. Urinalysis
    3. B. P.
- III. Female—Cervix:
  - (a) Normal—clear mucous
  - (b) Tenaceous mucous
  - (c) Inflammatory—(Smears)
    1. Erosion
    2. Ectropion
    3. Muco-purulent discharge
- IV. Female—Post-Coital examination (Hühner's test)
  - (a) Spermatozoa in vaginal pool and endocervical mucous one to 1½ hours post-coitum. (Numerous motile, morphologically normal)
  - If unsatisfactory:
    - Male (b) Condom or bottle specimen
    - (c) Urologic examination
- V. Female—Tubal Patency test—(Rubin test)

- (b) Sugar tolerance
- (c) (No test for defective ovulation)

1. For an ideal investigation of the sterile couple a careful history of both partners is essential. A thorough investigation into the causes of reproductive failure often leads directly to the essential factor in one or other of the couple. Gonorrhea plays an important part. Syphilis plays but a minor part. Unsatisfactory or incomplete sex relations is not an uncommon finding; when it obtains corrective advice is required.

2. Both husband and wife should undergo a general physical examination. In this way infective foci may be located or constitutional disturbances may be found to be responsible for sterility. The local genital status is of course of highest importance. Hypoplasia is a significant finding. The displacements are of less importance than is usually attached to them.

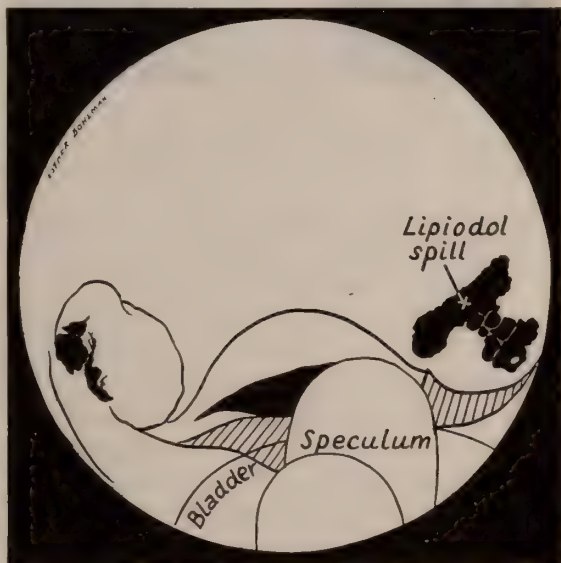
3. Particular attention is given to the condition of the cervix. Not so much for its position or the size of the external os as to the presence of inflammatory lesions and muco-purulent dis-



Fig. II. Sterility 7 years; age 27; history and physical examination negative. Post-coital examination satisfactory. Patency test—positive 180 mm. to 60 mm.

- (a) Gas or air
  1. With or without antispasmodic drug
  2. Repeated patency tests
- (b) Radio-opaque liquid
  1. Iodized oil. (Fluoroscopic)
- (c) Roentgenogram. (With gas alone or combined with iodized oil)

- IV. Male }  
Female } Endocrine
  - (a) Basal Metabolism



One litre CO<sub>2</sub> used. Lipiodol 5 cc. instilled into uterus. Roentgenogram—normal status. Lipiodol "spill" at both fimbriated ends.

charge. Seventy per cent. of female sterility is due to chronic endocervicitis, according to Polak.

Erosion and ectropion when encountered should be treated, perhaps best by linear cauterization. All purulent discharges should be cleaned up before proceeding with further tests.

Cervical acidity probably does not exist. A tenacious mucus may act as a barrier to spermatozoa.

4. Of great importance is the post-coital test. After the requisites of groups 1, 2 and 3 have been satisfactorily met, the wife is instructed to present herself at the office one hour after coitus. Fresh smears taken with a pipette from the receptaculum seminis and from the endocervical canal are separately examined. When numerous

this simple procedure proven safe and of definite diagnostic significance, but pregnancy has followed its use too frequently to be considered coincidence. Thus the therapeutic value of the procedure must be recognized. It has also led to a wider utilization of roentgenography of the pelvic viscera by means of transuterine pneumoperitoneum. By this method the viscera may be clearly visualized on the film so that any patho-



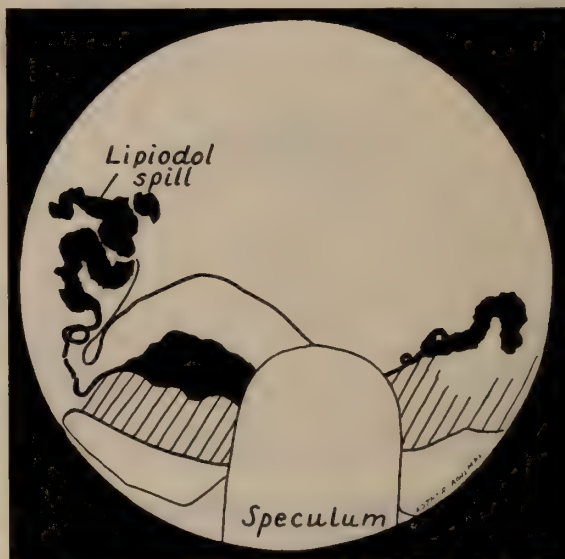
Fig. III. Sterility 2½ years. Age 27. Preliminary examination satisfactory. Post-coital test normal. Patency test—positive—120 to 50 mm. One litre CO<sub>2</sub>

motile and morphologically normal spermatozoa are recovered from the cervical canal, a great deal of useful information is obtained. First, the production of spermatozoa and the insemination of the cervix on the part of the male are satisfactory. Second, the cervical secretions present no serious hostility to the spermatozoa.

When the post-coital test is unsatisfactory, then an examination of a condom or bottle specimen of semen is required. If the latter proves satisfactory, the male partner is exonerated from blame, and further examination of the female passages is required. If the semen is found in the second test to be lacking in spermatozoa, or to contain only dead or deformed forms the husband is referred to the urologist for further investigation and treatment.

Only after a satisfactory post-coital examination is made should tubal permeability be tested.

5. A veritable gateway to investigation of the female generative tract has been opened up with the introduction of the Rubin test. Not only has



used. Lipiodol 7 cc. instilled into uterus. Roentgenogram—irregular uterine cavity. Ampulla of both tubes dilated. Tubes patent.

logic alteration of size, form or density, or the presence of adhesions may be shown. Furthermore, with the addition of the radio-opaque liquids, notably iodized oil, the lumens of the uterus and fallopian tubes can be visualized, thus locating obstruction, or establishing patency beyond doubt by recording "spill" into the peritoneal cavity. *The roentgenogram after the combined use of iodized oil and pneumoperitoneum yields the maximum information concerning the pelvic viscera obtainable without laparotomy.* I have used these diagnostic methods separately and combined in a large series of sterility cases and believe that the diagnostic precision of the roentgenograms are of the utmost importance in deciding upon the treatment to be instituted. As a record of the pelvic status they are indeed of greater value than an opinion after the ordinary methods of examination.

6. Neither the husband nor wife may be actually sterile and yet the couple may live together for years without producing offspring.



The so-called *incompatibility* is usually but a sign of relative infertility. This may be due to certain vitamin deficiency of one or both partners, or to an endocrinal disturbance. Low basal metabolic rate was found by Litzenberg in a group of women who were apparently sterile. A number of these became pregnant after thyroid therapy. I have failed to observe similar low basal rates in a considerable group of patients upon whom the metabolism was tested. Disturbances of the thyroid and pituitary glands as well as of the ovary are recognized as causes of infertility. Protein starvation in certain obese women is thought by Meaker to lead to infertility.

The male is subject to similar constitutional errors. Exhaustion of spermatozoa by sex excesses, by disease, or by endocrine disturbances is well recognized by all students of sterility, and may be improved by more or less prolonged periods of rest. Macomber has found great variations in the number of spermatozoa in the semen in direct relation to the state of fertility. He considers between 100,000,000 and 150,000,000 per cubic centimeter to be the normal count. There is no known test for the presence of normal ova comparable to the spermatozoa examination, and for the present one must be content to rely upon the menstrual history, palpatory findings, and roentgenographic evidence of ovarian integrity. Experimental work with female sex hormone bids to shed light on this phenomenon.

#### CASE REPORTS

Case I. Mrs. B. R., aged 23 years; married 4 years; never pregnant; no contraceptives used. History and physical examination revealed no cause for sterility. Genitalia normal to palpation.

Post-coital examination: Numerous motile spermatozoa recovered from the cervical canal one hour post-coitum.

Patency test performed (July, 1924)—C. O.<sub>2</sub> passed through both tubes at 140 mm. to 80 mm. One litre of the gas was permitted to flow into the peritoneal cavity. Roentgenograms revealed no pelvic pathology.

March, 1925—Pregnancy.

September, 1926—Pregnancy.

Case II. Mrs. D. M., aged 22 years; married 3 years; never pregnant; previously treated for leucorrhea and vaginismus. Preliminary examination negative.

Patency test performed (Dec., 1925)—satisfactory—100 mm. to 80 mm. One litre of carbon dioxide intro-

duced into peritoneal cavity. Roentgenograms corroborated findings of normal genitalia.

August, 1926—Pregnancy.

Case III. Mrs. S. C., aged 30 years; married 4 years; never pregnant; no contraceptives used. Gonorrhea three years ago successfully treated. Uterus retroverted. Cervical smears negative.

Post-coital examination—satisfactory.

Patency test (June, 1926) apparent obstruction—200 mm. lipiodol 3 cc. instilled into uterus. Uterine cavity and left tube filled—apparently patent. Right did not fill.

February, 1927—Pregnancy. (Normal delivery—November, 1927.)

Case IV. Mrs. C. B., aged 34 years; married 7 years; no pregnancy. History and physical examination negative.

Post-coital examination satisfactory.

Patency test—200 mm.—no evidence of patency. (March, 1926.) Repeat patency (May, 1926) under atropine; 200 mm.; apparent obstruction; lipiodol 3 cc. instilled into uterine cavity. Roentgenograms revealed typical triangular shadow of the uterine cavity, but no tubal filling.

Diagnosis: Tubal obstruction at uterine cornuae.

#### COMMENT

The mode of procedure adopted in attempting to solve the problem of the childless marriage is here briefly outlined. It is expected that by a careful study of both partners evidence of lowered fertility may be found in a definite proportion of patients which when corrected will lead to successful issue. It is only by determining the cause of failure that we may seek to treat the condition satisfactorily. Often more than one cause is present in one or both partners.

It is of more than passing interest that while the tubal patency test is essentially a diagnostic procedure, that pregnancy follows its performance in a definite percentage of cases without any other treatment being instituted. Thus the patency test becomes a therapeutic measure in sterility in a selected group of cases.

I have observed fifteen pregnancies following this method in the past five years. Pregnancy occurred immediately in two cases, within six months in several cases, and as long as four years after the test in one case. Sterility had been apparent in these patients in from three to ten years before the investigation was made. In two cases in which fimbrial obstruction was diagnosed, salpingostomy was followed by pregnancy within six months. One patient delivered at term and one at seven months; both babies lived.

Finally, as to the safety of the tubal patency test, pneumoperitoneum and iodized oil instillation as diagnostic aids; I have experienced no accidents or serious complications in over three hundred and fifty pneumoperitoneal injections. These were partially by the uterine route (Patency test) and part transabdominal inflations. Lipiodol was used in addition to carbon dioxide in ninety cases without any harmful effect. The combination of the iodized oil and pneumoperitoneum has proven a means of complete and accurate roentgen diagnosis of the female genitalia, of great value in sterility.

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### THE DIAGNOSIS AND TREATMENT OF NERVOUS DYSPEPSIA\*

LEE D. CADY, M. D.

ST. LOUIS, MO.

*General Remarks.* The progress of Medical Science has made it professionally dangerous to hazard a diagnosis of nervous dyspepsia without a painstaking process of excluding all other possible conditions that might cause the patient's symptoms. Like the generic diagnosis of neurosis, nervous dyspepsia of a few years ago has been found too inclusive, and a thorough study of patients removes more and more from such a classification. The examining physician may suspect a gastro-intestinal neurosis to be present at the beginning of his acquaintance with patient, but it should be the last diagnosis he is willing to make. A quick diagnosis of neurosis or nervous dyspepsia is a prolific source of professional chagrin and often causes a prolongation of the patient's illness by reason of faulty diagnosis.

For our purpose gastro-intestinal neurosis may be included under the more generic group of nervous dyspepsia; it is perhaps the only true form of nervous dyspepsia. If all patients are

excluded who do not have any possible basis for their symptoms as being part of a defense mechanism, the numbers called neurotic will shrink to a remarkably small figure. If the few remaining are re-examined frequently in accordance with a working hypothesis that there is always something wrong (physically) with the nervous patient, the number will shrink to a tiny fraction of the original group studied. Truly neurotic patients may be successfully treated by the neurologist or the gastro-enterologist. The neurologist may show the patient that the symptoms are not emanating from a serious source and ultimately bring about a clinical cure. The gastro-enterologist may secure the same result by correcting only functional abnormalities. He may do this by placing the patient on a regimen of diet, exercises, rest, recreation and mild sedatives which produces a better sense of physical well-being and serves to detract the patient from his introspection.

A very few years of experience with introspective gastro-intestinal patients may lead one to adopt an aphorism of thought that when one knows nervous dyspepsia, he knows gastro-enterology, if one may borrow from the Oslerian dictum concerning syphilis and medicine. It becomes incumbent on the examiner to exclude the dyspepsias of organic sources, such as gall bladder, gall stones, appendix, achylia gastrica, cancer, colitis, etc., and narrow the possibilities down to a group that may be included under the generic nervous dyspepsia.

Nervous dyspepsia is protean in nature. Since there are no clear cut boundaries, the reactivity of the patient's general nervous system controls the complexity of complaints and symptoms. The highstrung and introspective housewife will have more symptoms than her busier and more active or stolid laundress. The hypersthenic and ambitious business man who takes his worries home with him at night is more likely to have nervous dyspepsia than manual laborers of any habitus. Disregarding psychological factors, the hyposthenic and sthenic individuals are more frequent sufferers than those of hypersthenic physical habitus. To make a diagnosis of gastro-intestinal neurosis in any of these dyspeptics without finding sufficient personality defects and insufficient physical cause for the symptom complex should be considered malpractice. To make a diagnosis of nervous dyspepsia without first

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\*From the Soper-Mills Clinic, 3701 Westminster Place.



making painstaking efforts to exclude known organic sources is as bad, if not worse.

*Etiology.* The most frequent etiological factor of nervous dyspepsia is the effect of drugs. This included a fairly largely percentage due to the excessive use of tobacco. Because of individual responses to the use of nicotine, no definite amount consumed can be called arbitrarily moderate or excessive. In one patient the use of a specified amount of tobacco may be the sole cause, while in another it is only a contributory cause. The most common cause, however, is due to the lay habit of bowel-tinkering with drugs. The patient notices that he feels better after relieving a temporary sluggish bowel condition by catharsis. If his dietary and exercise habits are not conducive to prompt re-establishment of normal colonic rhythmicity, the intervals between catharsis is gradually shortened until he arrives at a state in which bowel regularity cannot be maintained without frequent catharsis in spite of an intrinsically normal bowel. Many of the drugs encourage gas formation or hyper-peristalsis. Many of the proprietary pills in common usage contain atropine as an anti-spasmodic. As the patient increases the number of such pills taken, he may be more or less constantly under the influence of its paralyzing action. Since its prolonged effect tends to make it cumulative, such patients may be rather acutely distressed when they may add atropine-containing coryza or asthma proprietaries to their drug burdens. It is folly to expect normal bowel rhythmicity if the nervous control of the fecal column is meddlesomely disturbed.

Dietary indiscretions are more often precipitating causes for such dyspeptic syndromes than a primary cause. The habitual use of a poorly balanced dietary, however, may be a primary cause. A constant use of a diet of relatively concentrated foods with small residue such as meats, bread, potatoes, gravies and sweet deserts with little green vegetables or fruits is a common detail of the patient's history. After the condition is once established the patient may restrict the variety and quantity still further without satisfactory relief. They often complain that all foods disagree. After a few days of such trouble the patient becomes thoroughly frightened at his apparently serious condition

and thereby adds an emotional factor to his already heavy burden.

The more unpleasant emotions as grief, fear and worry cause a state of acute or chronic disturbance of gastro-intestinal rhythmicity. Such interferences with motility and secretion engenders excess gas formation and undue absorption of indol, skatol, butyric acid, histamin and other relatively noxious digestion by-products. It may be mentioned here that it is not always the constipated person who is the most severely disturbed by these undesirable substances. Some of the most severely intoxicated patients are those with loose or diarrheal stools. The most common organism present which seems to be an etiological factor is the *B. Welchii*. This is particularly true in cases of carbohydrate intolerance<sup>1</sup> or where the mechanism seems to be due to a spastic colon. In a series of spastic colons studied at this clinic from the standpoint of the presence of this organism the incidence was 95 per cent. as contrasted to the general incidence of 35 per cent<sup>2</sup>. The *B. Welchii* is a prolific producer of histamin<sup>3</sup> but it also produces a neurotoxin<sup>4</sup> and a hematoxin<sup>5</sup>. Most of the long-standing cases are nervously irritable and usually have a slight secondary anemia. A smaller number of patients with atonic colons and increased gas formation without the presence of *B. Welchii* may be just as dyspeptic. Such patients are forced to absorb much of their gas. The amount of hydrogen sulphide and methane they undoubtedly absorb could account for much of their malaise and their introspective symptoms.

*Symptomatology.* The composite symptomatology of the nervous dyspeptic is characteristic. The symptoms are present but without any apparent pathological defect of sufficient importance to account for his degree of complaint. There is discomfort after meals varying from a feeling of distention to pain. The pain is usually in the upper abdomen, but often under the heart and usually interpreted as heart pain by the patient. If the left upper quadrant is sufficiently distended, pain may be referred up to the base of the neck and the tip of the left shoulder. Sometimes there is a feeling of soreness over the lower half of the chest. The patient has spontaneous and induced belching. Regurgitation of small quantities of stomach contents usually occurs at some time. Nausea

sometimes occurs but rarely is there any vomiting. A full, globus-like sensation in front of the neck associated with a slight nausea may eventually lead the patient to induce emesis. The skin of the face not infrequently is suffused with warm perspiration, while the hands and feet may be moist and cold. Sooner or later the patient becomes heart-conscious and usually is dismayed to find what he believes to be a weak and irregular radial pulse. As a rule the palpitation complained of is not found by the physician, but a rather slow and regular pulse. The patient usually has been conscious enough of heart movements to feel two sensations during the cardiac cycle and therefore estimates the rate at about twice the actual rate. Not infrequently the fear engendered by these observations does cause a slight increase in the cardiac rate and respiration is increased somewhat in rate and depth so that a mild over-ventilation alkalosis may add to the discomfort. Such periods of anxiety leaves the patient more or less constantly in the state of fear and irritability. As a rule the patients are easily fatigued during the day, and their ambition is considerably in excess of their physical strength. They retire in a fatigued state only to awaken completely sometime after midnight to spend one to three hours mulling over their troubles. Sleep is usually fitful and disturbed by unpleasant dreams. Occasionally a patient will awaken from a horrible dream to find the heart-consciousness and a sensation of respiratory distress present. Such acute and rather dramatic attacks awaken the patient from four to six hours after the evening meal. If the patient has not learned to relieve himself by warm enemata, the physician is usually called and not infrequently quiets the patient with narcotics. The physician usually finds the patient in a state approximating the appearance of mild shock. Many such attacks have been attributed to hysteria. Other patients may not be disturbed except to awaken one to two hours before their appointed arising time. As a result of such disturbance of sleep they arise feeling more fatigued than when they retired. Not infrequently there is a complaint of stiffness of the muscles, especially of the dorso-lumbar region and extremities which wears off after being up two or three hours.

*Pathological Consideration.* The pathology of nervous dyspepsia is at present to be considered

functional. One must not overlook the fact that the nervous dyspepsia group still included more patients suffering from symptoms originating from some organic cause than from purely neurogenic sources. It is doubtful that medical science can ever completely take all such organic cases out of this category. Even the patient with a gastro-intestinal neurosis elaborates symptoms about some functional digestive disturbance. The spastic colon with its frequent association of *B. Welchii* infestation is less frequently found in the truly neurotic patient than the atonic and redundant colon or visceroptosis. The patient need not have a neurosis or even be neurotic to suffer from so-called nervous dyspepsia. In its ultimate analysis, the symptoms of other clinical entities are elaborated by integration of nervous impulses. The difference in this case is that the symptoms arise from organs with functional disturbances, but which are otherwise capable of normal capabilities. In other words nervous dyspepsia has an organic basis just as surely as the symptoms of other clinical entities and is, therefore, not amenable to psychotherapy alone. The differential diagnosis is difficult since it must be made by a process of exclusion. It is, therefore, a diagnosis that can be safely made only after the most careful and painstaking history and examination, and perhaps ninety-five per cent. of the findings of the examination will be negative results. The gastro-enterologist must follow a routine for excluding such intrinsic diseases as gall bladder or biliary diseases, peritoneal adhesions, gastro-intestinal ulcerations, gastritis and achlorhydria, carcinoma, appendicitis, colitis, diverticulosis, tuberculosis or other infections, and last but not least hemorrhoids and fissures in ano. Extra-gastrointestinal lesions, such as pulmonary tuberculosis, central nervous system lues, spinal cord tumors, combined system diseases, intercostal neuralgia, herpes zoster, arthritis, kyphosis or curvature of the spine, angina pectoris (with abdominal radiations), pelvic lesions and dysfunctions, and even polycythemia vera, pellagra and chronic fatigue states. Many other clinical entities may have to be thought of only to be excluded. Space is too limited here to detail the process of a complete differential diagnosis. The usual findings in nervous dyspeptic patients are spastic colon, atonic and redundant colon or visceroptosis.



## TREATMENT

The treatment is to be approached with the viewpoint of re-establishing adequate gastro-intestinal rhythm, influencing bacterial or dietary conditions, improving general hygienic habits and breaking up introspective tendencies.

Normal motility is re-established by mechanical means. In both atonic and spastic colons plain agar-agar in amounts of one to three heaping tablespoonfuls daily, or mineral oil from one-half ounce (15 cc.) to two ounces (60 cc.) daily, are valuable. It is not usually desirable to combine the agar and oil. The spastic colon may do better with oil by mouth and oil enemata at regular nightly intervals. A bulky diet is essential, but in spastic colons, the cellulose must be smooth and non-irritating. The patient with the atonic colon should use cold drinking water as a rule, and hot water should be used by the individual with the spastic colon. It is desirable that both patients start the day off by drinking water on arising each morning. After, or before breakfast, as suits the individual habits, the patient should go to the stool and leisurely encourage the bowels to move. It is rather surprising how such a leisurely habit of encouraging the bowels to move at regular periods from one to three times daily will often accomplish the improvement of the patient's general sense of well being. Frequently the patient is able to dispense with the use of agar or the oil by cultivating such a habit time.

The change in the bacterial flora of the intestines can be made without instilling any faddish ideas into the patient. If the stool analysis shows that there is a putrefactive reaction, a diet containing a higher percentage of carbohydrates may be sufficient. This favors the development of *B. acidophilus* which in turn overgrows the putrefactive bacilli or *B. Welchii*. If the patient has a carbohydrate intolerance, the starch and sugar must be restricted or else fed in a different form such as dextrin or lactose in relatively large quantities to accomplish the same result. Where *B. Welchii* is the offending organism, it is also well to correct any hyp acidity the patient may have and to add the citrous fruit acids in fairly large quantities to the diet. The gas formation from whatever bacterial source may be inhibited somewhat by bismuth subnitrate, but sodium benzoate is better and may be administered in ten grain doses

(0.6 gm.) made up in solution. If given with small amounts of a saline cathartic, it is carried well down into the intestines before it has much opportunity to diffuse out and be absorbed high up in the intestines. It is decidedly useful even when given with the meals in the same dosage. This drug inhibits gas formation in 0.1 per cent.<sup>5</sup> It is by such means that the upper part of the intestine may be cleared of undesirable bacteria until normal motility and secretions can keep it clear.

The patient's hygienic habitus must be investigated and changed so that there is a restoration of sufficient rest, sleep and relaxation and the proper amounts of exercise enjoyed. These patients usually have far more ambition than endurance and they must be trained to budget their energy to meet their daily requirements. They need various degrees of strenuous physical exercise and the majority will be benefited by a series of abdominal muscle calisthenics. Hot baths are beneficial if not taken too late in the evening. Sedative (tepid) baths are desirable if taken before retiring. The nervousness and state of tension may be combated with drugs if properly given. Ipral, two to four grain, (0.13 to .25 gm.) may be given before retiring. This should be reduced in amount as the patient is able to dispense with it. Veronal in one grain (0.065 gm.) doses three to four times during the day will usually be sufficient to secure restful sleep at night. In spastic colon cases it is desirable to add atropine in 1-500 grain (0.00013 gm.) doses to the veronal (Soper). Besides the cumulative sedative effect of the veronal, it exerts a slight stimulative effect on the sympathetic nervous system. This relaxing effect on the colon is, therefore, complementary to the atropine effect. From time to time the patient needs reassurance and some simple lectures on the physiology of digestion. Introspective patients do better if they think they know why they are carrying out the physician's instructions, and it is just as well for them to be correctly informed about their functions as following the will-o-the-wisp of the faddist.

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## MEMBRANOUS COLITIS DUE TO RECTAL GONORRHEA

WILLIAM A. MARSHALL, M. D.

CHICAGO

Membranous colitis is a disease of the colon which is characterized by the appearance of membranous tubes in the stools. A nervous disorder has always been considered to be the cause of the disease. It may be admitted that neurasthenia or some other nervous condition plays an important rôle in the causation of membranous colitis. However, the following case report seems to prove that aside from the nervous element there is often an infection responsible for the disease. Removal of the infection improves the condition.

*Case report:* The patient, Mr. A. G. an Italian, 40 years old, married, gives the following history: For the last two months he has had slight irregular pain all over the abdomen. He complains of peculiar noises in his abdomen and of a constant desire to evacuate his bowels. Patient is very much afraid he might have contracted some venereal disease. He has never had gonorrhea or syphilis before. During the last two months he lost 15 pounds in weight.

The examination shows a pale looking medium sized man of rather nervous, neurasthenic behavior.

The pupils are equally wide and react to light. Tonsils and teeth are negative. There is a nervous twitching around the angles of his mouth, and the tongue trembles when protruded.

The chest shows negative heart and lungs. Blood pressure 145/80.

The abdomen is tender all over, but there is more tenderness in the left lower quadrant. The reflexes are exaggerated.

*X-ray findings:* Fluoroscopic screen examination shows negative heart and lungs. After the administration of a barium meal the stomach is normal in size, outline and motility. The intestinal tract is negative. The barium reaches the sigmoid in nine hours.

Rectoscopic examination shows considerable redness of the mucous membrane of rectum and lower sigmoid. In places there is an accumulation of pus. Smears of this pus show an abundance of pus cells and intracellular diplococci, resembling typical gonococci.

The genito-urinary tract shows no evidence of any present or past gonorrheal infection.

Laboratory examinations: The urine contains a trace of albumin and some hyaline casts. The blood gives a negative Wassermann test and a negative gonorrhea fixation test. White blood count 7,200. Red blood count 4,500,000. Blood picture normal. The gastric contents show free hydrochloric acid 19 and a total acidity of 35. The stools present a large amount of mucous shreds and tubes partly adherent to the fecal matter, partly lying aside. Microscopic

paraffin sections were made and the report given by Dr. R. H. Jaffe reads: "The specimen of feces contained whirls of mucous shreds surrounding clumps of cells with hyaline cytoplasm and pycnotic nuclei. Histological picture of a mucous colitis."

The patient was put on a non-irritating diet, charcoal was administered by mouth and a high rectal and colonic irrigation with a weak solution of silver nitrate was given every other day.

After four weeks' treatment the patient had improved remarkably. There was still a very small amount of mucous shreds in the stools. However, he had no pain, was much more confident, had gained five pounds in weight and was able to do his usual work. A rectoscopic examination made at this time showed still a slight redness of the mucous membrane but there was no pus and no gonococci.

### SUMMARY

Membranous colitis is very often caused through a nervous condition. However, it may be due to an infection in the gastrointestinal canal. Careful investigation and proper treatment of the infection will bring prompt relief. 55 East Washington Street.

## SURGICAL CORRECTION OF THE CROOKED NOSE

SAMUEL SALINGER, M. D.

CHICAGO

The crooked or deviated nose is a type of deformity that may either be developmental or acquired as a result of trauma. My experience in a large series of these cases has been that trauma plays a leading role in the majority, although frequently it may antedate the patient's recollection, having occurred early in childhood. I have observed many children a few weeks after a minor injury, in whom there was already apparent a slight thickening on one side of the nasal bridge and a tendency for the septum to crowd the lateral nasal wall. There can be no doubt that a slight displacement of the nasal bones during the formative period of childhood before ossification is complete may continue in the course of their development to grow in at a vicious angle and increase the deformity as full growth is attained.

Cases that develop in childhood usually show less tendency to exostoses, excessive thickening of the bones and fibrous adhesions of the periosteum to overlying soft tissues than those resulting from trauma later in life.

I find it convenient to class this deformity in three groups:



1. Simple deviation of the nasal bridge.
2. Deviation of the bridge with a twisted septum, the lower border of the septal cartilage usually projecting into the opposite nostril.
3. Deviation of the bridge with flattening and bony exostoses.

The correction of all of these types is done under local anesthesia by a technique which varies according to the indications.

introduced and the periosteum elevated over the lateral side of the nasal bridge all the way up to the upper attachment of the nasal bone and medially as far as the dorsum. The naris is then packed temporarily and the same procedure followed on the other side.

In order to sever the nasal bones and frontal processes I find it convenient to use Joseph's right angle saw, the handle of which I have had

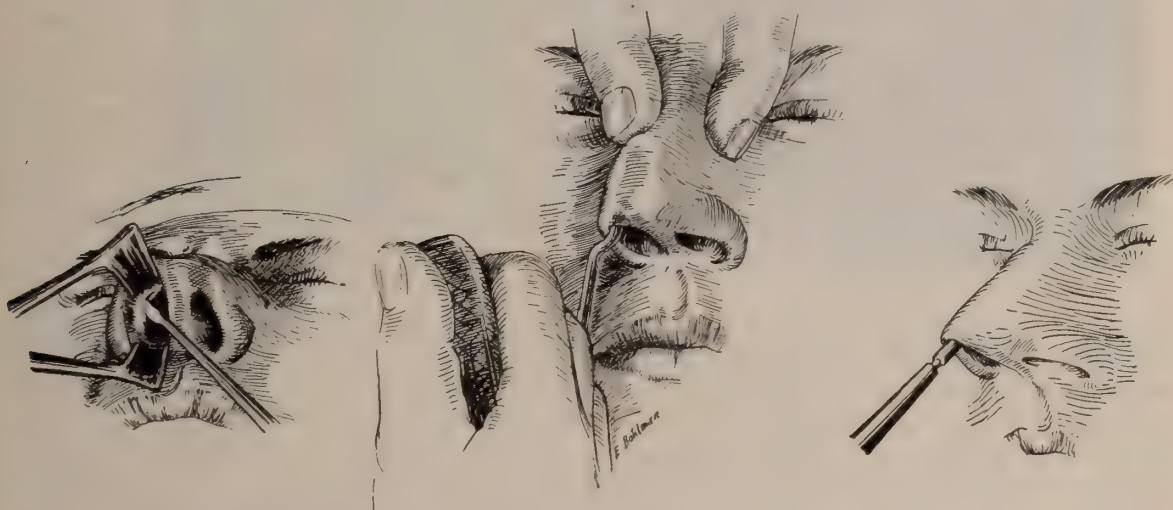


Fig. 1a—Incision within the vestibule.

Fig. 1b—Introducing the saw. Note finger and thumb of left hand acting as guide on the outside.

Fig. 1c—Chisel in position to sever the bridge at its root.

The procedure is as follows: After a preliminary hypodermic of morphin and atropine and a thorough irrigation of the nasal cavities, the skin over the nose, cheeks and lips and within the vestibule is thoroughly cleansed with ether and alcohol and then painted with half strength Tr. Iodine. The mucosa is cocaineized by any one of the approved methods and the tissues overlying the bridge injected with novacaine through punctures within the nose opposite the free ends of the nasal bones.

An incision is made along the outer wall of the lower nasal cavity in front of the inferior turbinate following the margin of the pyriform aperture corresponding to the free end of the nasal bone and lower edge of the frontal process of the superior maxilla, and a little below it. Having penetrated the mucous membrane, a Freer sharp elevator is then introduced and the submucous tissues incised down to the edge of the bone. The periosteum is incised in line with the mucous membrane incision using the same instrument. A small periosteal elevator is then

reinforced with a larger grip which makes it easier to grasp. Using the periosteal elevator or septum elevator as a guide the saw is introduced on the flat along it beneath the elevated periosteum and then turned so as to bring its toothed edge against the bone. The guide is then removed. Using the thumb and index finger of the left hand as a guide over the outside of the nose the saw is then put to work by a to and fro motion and the bone sawed through to the inner mucous lining but not through it. The same procedure is carried out on the other side. I do not find it necessary to separate the muco-periosteum on the under surface of bones unless I am forced to remove a triangular wedge of bone. This is sometimes required in cases of extreme deviation and is carried out on the broad concave side of the deformity. It simply means that we have to make another cut through the bone, the upper end of which meets the initial cut at its upper end and the lower end of which is separated from the former by a distance of .5 to 1 cm. This outlines a triangle

of bone base down at the margin of the pyriform aperture which is removed by forceps after its inner muco-periosteal covering has been separated.

Before infracting the bridge it is often necessary to follow the saw cut across the root of

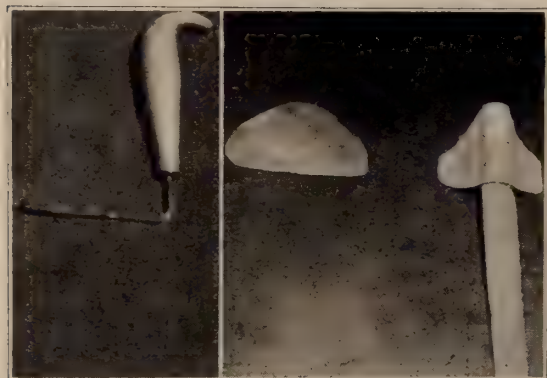


Fig. 2.a—Joseph saw with heavy grip.

Fig. 2.b—Copper plate cut and bent to shape nose. Note adhesive covering and pull up strip.

the nose so as to completely sever it. This is done by inserting a small flat chisel into the upper end of the saw cut and directing it toward the middle to meet a similar cut from the opposite side. The infraction can then be accomplished by pressure with the thumbs over the outside of the bridge on the convex side. If this fails to mobilize the nose by reason of incomplete severing of the bones or the resistance of the septum, it can be accomplished by using the Ash or Berne forceps introducing one blade

The splint is covered by parallel strips of adhesive, is lined by two layers of cotton lint and held in place by means of adhesive strips brought around from behind the neck under the ears and over the cheeks. A small detail which helps materially in keeping the splint in place and preventing it from slipping downward over the cartilaginous portion of the nose consists of a strip of adhesive previously attached to the inner side of the splint and carried over it from below to be fastened to the forehead. This gives an upward pull which holds the splint snugly up to the glabella. These points are shown in accompanying illustrations. The nose is not packed. The splint is left in place at least two or three days after which there is no longer any danger of hematoma formation. It is then removed, the skin over the bridge mopped with alcohol and re-anointed and is replaced without tension and kept in place for the remainder of a week. By this time the bones will have begun to unite and the danger of the displacement will be at a minimum.

When the deformity tends to recur the fault may lie in several directions. In general it is due to imperfect mobilization of the bones at the time of operation or else it is caused by a deviated septum which is crowded in its new position and tends to spring back to its old position carrying the nasal bones with it into the old deformity. In the former instance the bones can be kept over to the midline and deviation



Fig. 3.a—Copper splint in position. b—Picture taken just before splint was removed.

Fig. 3. d—Type 3. Nose twisted and flattened.

Fig. 3. c—Copper splint reinforced by pressure on the outside.

through the incision over the outer surface of the bone, the other inside the nasal cavity; a slight rocking motion will produce the results. The loosened bridge can then be moved to the correct median position where it is held in place by a moulded copper splint properly padded.

prevented by maintaining pressure on the outside of the nose by means of padded splint, such as I have devised for the treatment of fractures. This will have to be maintained for about ten days longer in order to be sure of a firm union of the bones in the proper position. The other



cause of recurrence of deformity, namely a markedly deviated septum brings us to a consideration of the second group of this paper.

In this type of deformity we find in addition to a deviated nasal bridge, that the septum is twisted so that its higher portion is curved in

to be accommodated in the midline after the nose has been straightened, the operation should aim to correct these faults. An incision is made along the free border of the septal cartilage for its full length and the cartilage dissected free on both sides as in the regular submucous re-



Fig. 4. a and b—Deviation with saddle nose. Front view.

Fig. 4. c and d—Same as No. 4 a-b. Showing result following ivory implant. Profile.

the direction of the convexity of the external deviation, often so far over as to come in contact with the outer wall of the nasal vestibule. Usually, also we find the free border of the septal cartilage displaced into the opposite nostril. This tends to carry the tip of the nose to the side opposite the external deformity, so that the dorsum of the cartilaginous nose is curved also. To correct the deformity, one has a choice of two methods. First, to resect the septum and at a later date correct the external deformity as outlined above. This method has the disadvantage of a possible weakening of the cartilaginous

section except that in this case the cartilage is freed completely at its attachment in the dorsum. The projecting portion of the cartilage is removed with a sharp knife and the bend in the cartilage corrected by an incision along the full length of the curve.

If the redundancy is sufficient to block the respiratory passage, enough cartilage is removed to insure free breathing. The incisions in the cartilage are made in the same direction as the curve. Once the cartilage is thus divided it is easy by pressure with a dull elevator to push the convexity over and permit aligning of the



Fig. 5. a and b—Deviation with depression above the tip. Front view.

Fig. 5. c-d—Same as No. 11. Showing result after ivory implant. Profile.

bridge so that following the second operation there is danger of sinking in of the dorsum just above the tip. The second method is to do a conservative operation on the septum, preserving as much of the cartilage as possible. Inasmuch as the septum is too high and too long

portions in midline. If the cartilage is responsible for a hump in the cartilaginous nose it can be corrected by excising a strip of the septal cartilage along its dorsal border which has been freed in the initial dissection. Where the septal deviation involves the bony septum, the cartilage

is severed at its junction with the bone and held aside with the blade of the Killian speculum and the bony projection removed as in the usual septum operation. If the lower portion of the vomer is involved the same procedure is followed except that the bone is not removed but is in-

These are usually the result of great violence often associated with flattening of the cartilaginous nose and external scarring. A case of this type requires not only the two lateral saw cuts but also a midline cut so that the bridge is split as well as separated. Exostoses when



Fig. 6. a and b—Simple deviation.

Fig. 6. c and d—Marked deviation of many years standing. Septum also twisted.

fractured after being severed with a chisel. This preserves the base on which the cartilage rests and makes for a more firm cartilaginous nose. The external deviation is then corrected as described above. The nasal cavities will have to be packed to retain the septum in its new position and to prevent the formation of hematoma. The packing is removed in 24 hours, but the external nasal splint is retained as in the uncomplicated case for three to seven days. These cases require the most scrupulous asepsis, as

present are removed with the chisel or planed down with a rasp. The loosened nasal bones are then brought into the median position so as to form a V by their junction and are held in place by the moulded splint as described above. Frequently we have found it of advantage to offer some support from within the nose by means of the intra nasal bar attachment to our nasal splint which we are in the habit of using for the correction of recent fractures. The bar is protected by a covering of thin rubber tubing



Fig. 7. a and b—Simple deviation. History of two injuries years apart. Second picture taken immediately on removal of splint. Edema of lid still showing.

Fig. 7. c and d—Extreme deviation. Septal cartilage displaced.

there is always danger of infection which would surely lead to loss of septal cartilage and a saddle nose.

The third group comprises those in which in addition to the deviation, the bridge is also flattened and thickened by new bone formation.

and is adjusted to support the bones without undue pressure, the idea being simply to prevent their sinking into the old deformity, a tendency which the external moulded splint often encourages. It will be seen that in this way the loosened bones are held firmly in position both



from within and without, the nasal cavities being free for respiration and drainage, no packing being required. If the cartilaginous nose is also depressed it can be corrected at a subsequent operation by the implantation of a strip of ivory.

25 E. Washington St.

#### DISCUSSION

DR. HARRY POLLOCK, Chicago: I want to congratulate Dr. Salinger on his results in these cases. Any one doing this work in public institutions knows how difficult it is to obtain good results. In cases we have had in which there is a deviated septum, we usually take care of the deviated septum first. I saw a case this morning in which an attempt had been made to correct the deformity in the doctor's office, and the man was allowed to go home. He was in terrible shape. He complained that he could not breathe through his nose. The septum was deflected to the side where the deformity was. He was much more concerned about his breathing than his deformity. The last time we had a discussion, Dr. Salinger was opposed to ivory. We have been using ivory for seven or eight years. We have used copper plates to hold the nose in position but we now use dental wax for our splints and we find it much better because you can adapt it immediately after the operation. The wax by heating can be made very flexible and adjusted to the patient's nose and it can be held in position that way. We found it better than copper. Copper is not flexible. The results here obtained I should say, were as good as any I have ever seen.

DR. S. SALINGER, Chicago, (closing): Where you have a deviated septum I would suggest it be corrected before the plastic is done and that most of the cartilage and bone be left. I have used dental wax but find this difficult for some reason—the wax seems to give. I have put a wax mold on and taken it off several days later only to find it bulged. The copper splint is more trouble to make, but I usually make an approximate splint in advance and shape it when I am through with the operation. If you line a copper splint or protect it with two or three layers of cotton lint, you have plenty of protection.

#### MOVABLE KIDNEY

LEWIS WINE BREMERMAN, A. M., M. D.,  
F. A. C. S.

CHICAGO

Before one can understand the etiologic factors responsible for the development of movable kidney one must possess an accurate conception regarding a few of the normal features relative to the kidney. A normal kidney is held in place by the fatty capsule which invests it, the perirenal fascia, the suprarenal capsule to which it

is adherent, the renal pedicle, and by the pressure of the surrounding muscle tissue. The depth of the renal fossa is important as it is a well known fact that the fossa in females is much shallower than in males, thus accounting for the fact that females are more prone to movable kidney than males. It must not be forgotten that the perirenal fascia does not entirely surround the kidney, there is an opening at the lower pole through which the kidney moves.

The kidney normally is not a firmly fixed organ. It has some mobility in a range of 3 to 5 cm. with the respiratory excursion.

Movable kidney is one which possesses a preternatural mobility, but must not be confounded with floating kidney, which is one that wanders within the abdominal cavity and possesses its own mesonephron, while movable kidney has a greater range of motion than normal in a vertical plane behind the peritoneum.

Movable kidney may be classified according to the range of mobility. A kidney in which the lower pole can be definitely palpated below the twelfth rib may be considered a movable kidney of the first degree; when two-thirds of the kidney can be felt, a movable kidney of the second degree and when the entire kidney is below the twelfth rib a movable kidney of the third degree.

Movable kidney is the result of a definite congenital anatomical defect, occurring in women more commonly than in men, and develops in the right kidney more often than in the left. The reason for this is unquestionably due to the fact that women develop more congenital defects and more of the exciting etiologic factors which have a tendency towards the exaggeration of such defects. The condition being of the right kidney is due to the fact that this organ normally is lower than its fellow, the opening in the fascia is wider, the kidney fossa shallower, and is influenced to a greater extent by pressure of surrounding organs, naturally in the presence of defects the right kidney is the one more apt to be affected.

Trauma as an exciting etiologic feature, except long continued mild trauma must be disregarded. An injury of such violence as would tear a kidney loose from its attachments would more likely produce a subcapsular rupture of the kidney, a tear of the pedicle or injury to the intra-peritoneal organs of such severity as to require immediate surgical treatment. Histories

of patients at times show that symptoms seem to develop subsequent to an injury of some sort. This may be true, but trauma per se is not responsible for the pathology.

In all individuals who have movable kidney there are present certain and precise bodily defects ascertained by physical examination. Becher and Lennhof first called attention to this and outlined methods of examination which proved conclusively that anatomical defects exist with the presence of movable kidney. These investigators proved from the examination of many patients that movable kidney occurred more frequently in women with long trunks than in women with short trunks. They found by taking measurements from the supra-sternal notch to the upper margin of the pubic bone and dividing this by the result obtained by the measurement of the smallest circumference of the abdomen, multiplying by 100 would give a certain body index co-efficient. This they found in normal individuals to be 75. If the result was 78 or 80 or higher it was a positive indication that the individual had movable kidney. In individuals whose co-efficient was less than 75 subsequent examination showed normal kidney as far as the mobility was concerned. These measurements naturally are only approximate as they are not made between fixed points and consequently may show error.

M. L. Harris has experimented extensively and added much to the subject of movable kidney and its etiology. Harris divides the body into three zones—the upper, middle and lower by producing three planes transversely through the body, with the patient in the dorsal position. The circumference of the body is obtained at the tips of the tenth ribs and a mark is made on the body where the line bisects the median line. A line is made at the lower end of the sternum and the circumference is taken at this point. The distance is now measured from the supra-sternal notch to the superior border of the symphysis pubis and a line drawn connecting these. The measurement of each zone is then computed. The vertical measurement divided by the circumference at the tenth rib, the quotient multiplied by 100 gives Harris index No. 1. This estimation is similar to Becher and Lennhof findings, only using fixed points, thus being much more accurate.

In the comparative study of the different

zones as marked off by Harris' method one will find that in the positive cases the middle zone is much elongated and contracted especially in the lower portion.

Harris went still further in his experiments as he found that there were certain fallacies and errors in his first schedule. He decided to use calipers and measure diameters instead of circumferences with the patient in the erect rather than the dorsal position. He suggests five diameters as follows:

1. The widest or upper lateral diameter. This is computed with the tips of the calipers resting at the widest point of a plane corresponding with the lower end of the sternum or about the seventh rib.

2. The middle lateral: the greatest distance between the lower edges of the tenth rib.

3. The lower lateral: the widest distance between the iliac crests.

4. The upper antero-posterior diameter: from the lower end of the sternum to the spinous process opposite.

5. The middle antero-posterior: from the median line in front to the spinous process opposite on the same plane as the middle lateral diameter.

Harris' conclusions are now based on accurate measurements made between fixed points. In computing Harris index No. 2, the middle lateral diameter measurement is divided by the upper lateral and multiplied by 100. This index refers, as can readily be seen, to the middle zone and depicts the relation between lateral diameter of the lower and upper ends; thus showing the amount of constriction of the lower end. These measurements prove the fact that the middle zone diminishes in size from above downward approximately 100 degrees more from side to side and 140 degrees more from before backward in the positive cases as compared to the negative proving unquestionably that there is a marked diminution in the capacity of the middle zone in the positive cases.

The symptomatology of movable kidney is classic and can be divided between symptoms referable to the kidney and those referable to tissue or organs outside of the uro-genital tract and those referable to other organs and tissue within the uro-genital tract.

Many individuals have movable kidney of a greater or less degree and present no symptoms whatsoever and many cases will only present



symptoms resembling those associated with hysteria and neurasthenia, others will complain only of gastro-intestinal symptoms. There seems to be a definite sympathy between kidney disease and the gastro-intestinal tract, consequently errors in diagnosis are quite common. In any case of obscure gastro-intestinal symptomatology the kidney should be excluded as an etiologic factor before concluding definitely as to the diagnosis.

In those cases where the symptoms are of the uro-genital tract and point to the kidney pathologically it is of the utmost importance to study the case with the idea of reaching definite conclusions regarding diagnosis so that proper treatment may be instituted so as to prevent the ultimate loss of functional capacity of the organ.

The most prominent symptom is pain which may be of a varying degree from that of a slight lumbar ache to a severe colic paroxysmal and intermittent in character known as Dietl's crisis. Pain has been almost a constant symptom in the vast majority of cases seen by us, due, we believe, to the fact that almost all of our cases are well advanced in the course of the disease. Some of the cases will have continual pain, mild and aching in character, situated usually in the lumbar region, or may be transmitted to other locations of the uro-genital tract, again the pain may be intermittent, but severely intense. Not uncommonly the pain produced by a pathologic kidney may be transmitted to its fellow on the opposite side, more rarely to the other organs of the abdomen so that the gall bladder, appendix, stomach, and pelvic organs may be suspected as the primal focus of the pathology. Great care must be practiced in making a precise and complete examination of the patient to prevent errors of diagnosis. Errors have been numerous without a doubt as many true kidney cases that have come under our observation have been operated upon one or more times for other conditions without relief or secession of symptoms. We can not be too emphatic in stating that in every case of obscure abdominal pain exclude the kidney as the primary etiologic factor prior to diagnosing intra-abdominal pathology.

The pain associated with movable kidney is due either to pull and traction upon the nerve plexuses, torsion of the pedicle with the interference of the blood supply increasing intrarenal pressure with tension upon the capsule, or due

to urinary stasis with the consequent pelvic dilatation and spasm. The pain accompanying the latter condition is severe, apt to be intermittent in character particularly when the ureter becomes twisted or kinked thus producing a complete urinary stasis with sudden pelvic dilatation and spasm; this is the usual condition associated with Dietl's crisis.

There are types of movable kidney where the symptoms are referred to other parts of the uro-genital tract and may apparently indicate that the pathology was not primary in the kidney. Many of these patients will only present a polyakuria with or without dysuria, which may be both diurnal and nocturnal in character. Attention will necessarily be called so prominently to the bladder that the diagnostician may arrive at an erroneous conclusion regarding the bladder as the seat of the pathology. In individuals in middle adult life who present a nocturnal mic-tuary frequency, suspect a kidney lesion as the cause of the trouble.

Urinary changes are for the most part constantly evident and usually characteristically prominent from a diagnostic viewpoint. Casts, albumin, pus, renal, and pelvic epithelia, with occasional red blood cells may be discovered. The examining physician may suspect with the findings that the patient is a typical nephritic, but as a rule the other signs and symptoms of nephritis are rarely evident. Movable kidney which produces severe intermittent pain as the result of complete blocking of the ureter may resemble that type of pain common in nephrolithiasis.

The diagnosis of movable kidney should not present any unusual difficulties as the history, symptoms, and signs will lead to a careful physical examination which together with the x-ray findings will produce such a classic picture that an accurate diagnosis should be the result.

After the diagnosis of movable kidney is made the surgeon must carefully study the x-ray film which shows the position of the kidney, the position of the pelvis, the character of the ureter and its position and its course. From this interpretation he must outline the subsequent treatment.

The treatment of movable kidney is both palliative and surgical. In the mild types of this condition support to the abdominal muscle by belts or corsets may bring about relief and pre-

vent the progress of the symptoms. Palliative measures will not correct the condition, but acts mechanically in holding the kidney in such position that the drainage from the pelvis is not interfered with. These abdominal bands or corsets must be put on with the patient in a dorsal position with the hips elevated and the shoulders low and must be worn continually when the patient is up and about. Notwithstanding the fact that palliative measures have been carefully followed by the patient the progress of hydronephrosis is not influenced and more radical treatment must be instituted. The only hope of saving a kidney of this kind is by a well planned surgical procedure. Nephropexy is the operation of choice and if the proper interpretation of the x-ray has been made one can work out a well adapted mechanical plastic operation which will assure the kidney being fixed in a position which will permit free drainage from the pelvis, and which also will prevent the kidney from assuming an abnormal position whereby the vessels of the pedicle are not permitted to function normally, interfering with the blood supply of the organ.

Nephropexy properly performed with a complete mechanical understanding of the result to be expected may be worked out in a very successful operation and in our experience followed with perfect end-results in the majority of patients.

We have perfected a technique for nephropexy which we consider ideal in these cases and which we will endeavor to give in detail.

The patient is prepared in the usual manner as for any major surgical procedure, except that we advise an intravenous injection of glucose just prior to the operation. The position on the table is the typical kidney position; patient on left side, with the under leg flexed well upon the abdomen. The kidney elevator is raised so as to increase the distance between the margin of the rib and the crest of the illium. Gas oxygen or ethylene gas is preferable for anesthesia. An incision is made perpendicular in character from the margin of the twelfth rib to the illiac crest, just outside the border of the erector spini mass of muscle. The major part of the success of the operation depends upon this exposure of the kidney; because an exposure made through the oblique incision commonly used will cause the kidney to become fixed in

an abnormal position, causing the lower pole of the kidney to be rotated outward and anteriorly, resulting in a kinking of the pelvis and a continuation of urinary stasis, whereas the perpendicular incision allows the kidney to become fixed in a more or less normal position. The kidney being exposed it is delivered, the capsule slit from pole to pole and stripped posteriorly for about one-half inch. A fixation suture is placed in such a manner as to utilize both layers of the capsule posteriorly—its position in relation to the distance from the upper pole depending upon the amount of mobility of the kidney. A second suture is placed about one inch lower than the first through both layers of the stripped capsule in exactly the same manner as the first. These two sutures are not sufficient, as the pull on them will be about the junction of the middle and upper third of the posterior border. The kidney consequently will be rotated anteriorly thus constricting the pelvis and retarding urinary drainage. In order to overcome this anterior rotation place a third suture under the capsule of the anterior border in such a position that it will be equidistant from the upper and lower suture of the posterior border. This suture will prevent the anterior rotation.

The kidney is now dropped back into the cavity. The upper fixation suture is passed through the deep fascia as close to the twelfth rib as possible. The lower posterior suture is brought up within an inch of the first suture and passed through the deep fascia. The anterior suture is likewise passed through the fascia. The fascia is now closed with interrupted sutures. The three fixation sutures are now drawn taut and tied, thus bringing the exposed part of the kidney stripped of its capsule against the incision made through the fascia. The wound is then closed in the ordinary manner. The patient is placed in bed with the foot elevated about twelve inches, thus bringing gravity to our assistance, as the kidney will have a tendency to slip back into its normal fossa. This position is maintained for forty-eight hours with the patient in a dorsal position. The patient is kept in bed for about seventeen days and can usually leave the hospital in three weeks.

Following the technique herein described our results have been particularly good—relieving symptoms, producing good urinary drainage, and preventing the progression of hydronephrosis.



Subsequent examination of pyleograms have proved that the kidney is fixed in such a position as to allow the pelvis to drain freely and further shows that there has been no increase in the pelvic dilatation.

We feel that the success in the treatment of these cases depends primarily upon two very important factors namely; the perpendicular incision and the fixation suture in the capsule of the anterior border preventing anterior rotation.

In conclusion a few features may be repeated for emphasis:

Movable kidney productive of renal symptoms requires nephropexy.

Diagnosis depends upon a study of the symptomatology and the radiograms.

The radiographic study produces evidence of value in working out the mechanical details of the surgical technique.

The position of the patient on the table is important. The position of the patient in bed following the operation is definitely essential as an important aid in obtaining best end-results.

From our experience nephropexy performed upon properly indicated cases, following the technique herein detailed is an operation which will be followed by exceedingly gratifying results.  
185 North Wabash Avenue.

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## THE EYE IN RELATION TO GENERAL DISEASES\*

MEYER WIENER, M. D.

ST. LOUIS, MO.

No one can gainsay the fact that the ophthalmologist is the most fortunate in his selection of a specialty in that his problems have probably been more fully solved than in any other branch of medicine. For the most part they see what they are doing and they probably are able to prognose and accomplish according to a standard which few internists can undertake to equal. There is a fault, however, which this very perfection of skill may devolve as an almost necessary consequence. One may become so technical, so independent in his own methods, that he is apt to disregard or minimize the importance of a close relationship to the general profession.

The general practitioner, the internist, and especially the neurologist, can be greatly benefited and helped by consultation with the ophthalmologist. The ophthalmologist, however, in a very large proportion of his cases, is absolutely helpless without the aid of the man in general medicine. I make no distinction between general practitioner and internist, as the latter may be considered as a general practitioner who has eliminated surgery from his practice. We shall see, as we proceed, the absolute inter-dependence of the ophthalmologist and the general practitioner, one upon the other, the demands of the ophthalmologist on the general practitioner being far greater and more consequential than contrariwise.

Nowhere is this relationship more striking than in the branch of neurology. A very large proportion of the cases of brain tumors seen by the specialist in neuro surgery, is first seen and diagnosed by the ophthalmologist. Unfortunately, these cases are apt to slip by unnoticed unless a careful systematic routine of examination is maintained. In all cases of headaches, unexplained by refractive errors or muscle imbalance, careful ophthalmoscopic examination and recording of visual fields must be made before passing him along for further examination and study. Especially are we inclined to become careless in a case which we may have observed for a long time as a refractive case; for example, where the patient may develop an intracranial growth and the symptoms be easily ignored or misinterpreted. I have been taught, and have drilled the point into my students, that when a patient complains of a certain symptom, there is always some basis in fact. I may illustrate this question by a recent example which happened in my own office last Spring while I was in the Barnes Hospital convalescing from an appendix operation. An old patient called to have his glasses changed. He complained of inability to follow the lines readily while reading. He was in a hurry to catch a noon train going east. My associate, Dr. Alvis, made a careful refraction and found he had normal vision for distance and near with his own glasses, which could not be improved upon. His fundus revealed nothing abnormal. His peripheral fields were normal. The average man would have stopped there or even sooner. He remembered his training, however, and took

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\*Read before the Williamson County, Illinois, Medical Society.

the fields with the campimeter, disclosing a small homonymous paracentral hemianopsia, indicating hemorrhage in the visual cortex.

In skull injuries, the ophthalmologist naturally plays an important part, as the observation of the eyes and eye grounds often indicate to the surgeon the necessity for surgical interference, and even point to the location.

Not long ago I was called to examine a young girl who had been injured while riding in a bus. She was unconscious for several days. On regaining consciousness, she complained of not being able to see. The examination of her eye grounds revealed a normal disc and retina. Her vision was limited to perception of light, not sufficient to outline her fields, but her field for projection was limited to the right side of either eye. A diagnosis of cortical blindness due to hemorrhage in the left occipital region was suggested and corroborated by exploratory operation, resulting in complete restoration of vision.

Nystagmus is a condition which puzzles many. It may be hereditary which would include that due to albinism. Individuals have been known who could produce voluntary nystagmus at will. It may result from marked bilateral visual defect originating very early in life. Nystagmus occurs as a result of labyrinthine disease or as a manifestation of certain nervous disorders, such as disseminate sclerosis, syringomyelia and Friedrich's ataxia. Cerebellar lesions, inflammatory or in the nature of a neoplasm, are often associated with nystagmus. Cerebral lesions do not give rise to nystagmus.

Occupational nystagmus is familiar to all of you. Certain facts regarding its causation are clear. It is generally agreed that in mines where it is feasible to use naked lights instead of the Davy lamps, the condition is almost unknown. It is interesting to note that a much larger proportion of miners with nystagmus are blonds.

Ciliary alopecia or madarosis is generally the result of chronic inflammatory process, but may occur spontaneously as the result of a disturbance of the endocrine system. I have seen it occur in a young girl during adolescence where all of the lashes and eye brows became white and finally disappeared. This child recovered completely under treatment with ovarian extract.

It must be borne in mind that acquired tumefaction of the lid may result from mucocele of

the frontal sinus, whereas, if congenital, encephalocele must be considered. These are rare.

An aesthesia of the lids is present in leprosy, and sometimes in the beginning of tabes. It may also be manifestation of hysteria. Mild forms of blepharospasm are usually due to error of refraction, but the intense tonic spasm, exclusive of the tics, means severe inflammation of the conjunctiva, cornea or iris.

Ptosis may be due to a local inflammatory process or possibly to tabes or a central lesion.

Color of the conjunctiva may be white and pearly as in anemia or phythisis, yellow as in icterus, or blue as in thinning of the sclera associated with brittle bones. Ecchymoses or hemorrhages in the conjunctiva, when not associated with injury, generally means, in adult life, focal infection. The vast majority of cases can be attributed to abscessed teeth. Whenever a child comes into our office with conjunctival hemorrhages, our first question is likely to be "How long have you had the whooping cough?" Phlyctenules or small pimples of the conjunctiva, usually on or close to the corneal margin, are held by most authorities to be tuberculous. Children affected by this disease have severe photophobia, and are usually improperly fed. Fresh air and sunshine with plenty of milk and cod liver oil with abstinence from sweets, secure the desired results.

Paralytic deviations of the globe are prone to sudden appearance and may increase rapidly in degree. They are frequently bilateral and often affect a set of muscles. They are often associated with other paralytic symptoms and are usually ushered in by diplopia and associated with vertigo. The paralysis is peripheral when the lesion is situated anywhere along the course of the nerve between its nucleus and its termination in the muscle.

Total ophthalmoplegia may be set down as peripheral, either basilar or orbital. Associated symptoms of the fifth nerve, like neuralgias and neuro-paralytic keratitis, and of the optic nerve, such as optic neuritis and optic atrophy are frequently present. If there are associated symptoms and if one notes besides these, symptoms pointing to trouble of the oblongata, the lesion may be called nuclear. These deductions refer to unilateral paralysis.

Conjugate paralysis or paralysis of the asso-



ciated movements is frequently observed in disseminated sclerosis.

Exophthalmos, if not associated with a local disease of the orbit, such as trauma, hemorrhage into the orbit, phlegmon, periostitis, emphysema, or involvement of one of the adjacent sinuses, is most usually met with in Basedow's disease. With this, of course, we have the associated Graefe sign of the lids and the weakness of convergence.

I may state in passing, that it is my belief that one of the earliest signs of exophthalmic goiter is insufficiency of convergence, and that whenever we find, in our routine examination of the eye muscles, this condition, we look for the other symptoms such as shortness of breath, tremor, moist palms, headaches and enlarged thyroid, and seek help from the general practitioner for the relief of these symptoms. One of the outstanding symptoms of a patient suffering from convergence insufficiency, is that of sleepiness during close work.

Exophthalmos may be formed from the rare growth known as chloroma, recognized by the bright green color of the growth and its especial predilection for the bones of the skull and dura mater; and may be further confirmed by the finding of myelocytes in the tissues and blood, as in leukemia.

The cornea may vary in size and shape, but is usually about 11 mm. in diameter. Keratoconus, or conical cornea is a disease of adolescence, occurring both in the male and female and is unquestionably influenced in the early stage by the local instillations of epinephrine and the building up of the patient's general physical condition.

Every practitioner should be able to remove a foreign body from the cornea or lid. As a rule the substance lies underneath the upper lid, and can be wiped off by simply everting the upper lid. A clue to the location of a foreign body is given by the localized pericorneal injection which is always present. Opacities of the cornea may be due to scars, which would be revealed by the history as a rule, as well as by a careful examination with focal illumination. In this case there is seldom vascularization. Active infiltration of the cornea, except in the very early stage, always shows pericorneal injection. This we find due to various general disorders. The severe deep general infiltration of the cor-

nea or interstitial keratitis is practically always syphilitic and most usually congenital.

Other signs of hereditary syphilis are seldom lacking. Other forms of infiltration or ulceration, however, are found the result of focal infection. In such cases we seek the help of the general practitioner in a careful search which must include teeth, tonsils, prostate, gall-bladder, and gastro-intestinal tract. The focus may occasionally be most unusual.

A few years ago a patient, who was a traveller and living in Cleveland, Ohio, consulted me on account of recurring ulcerative keratitis. I referred him to Dr. Bruner and urged him to have a complete physical examination, preferably in a hospital. An old osteomyelitis of the tibia was found and treated by Dr. Crile, with a permanent cure of his ulcer.

Anesthesia of the cornea is sometimes found in tabes, although it is also found in hysteria and in glaucoma. Corneal hypoesthesia is part of the syndrome sensitivo-seniorial hemianaesthesia and to organic lesion of the posterior part of the capsule, or extensive cortical lesion of the parieto-occipital region.

I am not going to bore you with the various reactions of the iris, with which, I take it, you are already familiar. There is one condition which my associate, Dr. H. L. Wolfner, and myself have reported as indicating high blood pressure in arterio-sclerosis, wherein the pupil is larger than usual, responds to light, but quickly rebounds to its first position.

It must be remembered also, that there are a few conditions in which the pupil will respond to light even though the patient cannot see, such as found in uremic blindness, and the blindness of post-basic meningitis, and puerperal amaurosis. These conditions are supposed to be due to the effect of toxins on the visual cortex.

Primary inflammation of the iris, when not due to local causes, may result from syphilis, gonorrhea, acute infectious diseases, disorders of metabolism, such as diabetes, gout and hyperthyroidism; and tuberculosis. In many cases iritis may be due to focal infection. Needless to remark, the internist must help us in our search for the cause if we hope to effect a cure. Let me state here that it is my belief, that when a case is referred to the medical man by the ophthalmologist, he should suggest to him what to look for because the eye indicates it, and

the indications may otherwise be absent. Some internists are sensitive, and resent receiving suggestions from specialists who refer cases for examination. They feel that their examination should not be influenced in any manner whatsoever.

On the other hand, if the medical man, in referring a case for ophthalmologic examination, would briefly outline his own findings, our reports would undoubtedly stimulate an interest in ophthalmology for the internist and would result in increased mutual benefit.

Every condition where the cornea and iris is involved is not necessarily a limited affection of these tissues. I refer to acute congestive glaucoma. In this disease, the general practitioner is often the first to be called, as the onset is usually so sudden and the pain so severe that it cannot be localized by the patient, who sends for the family doctor. May I again call your attention to the fact that whenever you see a case of acute severe headache accompanied by nausea and vomiting, that you carefully examine the eyes to exclude glaucoma. Timely treatment in the reduction of tension means everything in restoration of vision as well as permanent relief of the symptoms.

Before dismissing affections of the uveal tract, let me discuss one of the most frequent causes and one which is slighted entirely too much. Every corneal lesion or inflammation of the iris or choroid, where an obvious cause is not evident, should be suspected of being tuberculous. The examination should be made in the patient's home or in a hospital, with the patient in bed. The examination must be made with great care as it is not without danger to the eye. You internists are accustomed to giving an initial dose of 1 mgr. of Koch's old tuberculin. I have seen 1/1000 mg. produce such a terrific focal reaction in the eye of a sensitized individual as to almost result in the loss of the eye. We begin with maximum doses of 1/1000 mg. and gradually increase to 1 mg., and we do not consider the case to be tuberculous unless we obtain a positive local, general and focal reaction. In the treatment we request the physician to administer the largest dose possible without producing a reaction. Our results in ocular tuberculosis have been most gratifying.

The causes of retinal hemorrhages are many and varied. They vary greatly in number and

size, in their position in the retina regarding proximity or remote position to the disc as well as the layers of the retina involved.

When effusion of blood takes place in the nerve fiber layer the hemorrhages show up the texture of this layer and are often spoken of as flame-shaped. When the hemorrhages lie in the deeper layers of the retina, they tend to be roughly circular in form. The time taken for absorption of hemorrhages depends of their size and location.

General arterio-sclerosis is nearly always evidenced by changes in the retinal vessels, and consequently is often first discovered by the ophthalmologist. The retinal vessels can be studied in life in a manner not possible with any other vessel in the body, being magnified about 15 diameters with the direct method: The first change is an increased brightness in the retinal reflex, often termed the "copper wire" appearance. Compression of the veins where crossed by an artery is next observed. The lumen of the artery ceases to be of uniform calibre and shows narrowings in its course. The arteries become tortuous. Retinal hemorrhages occur, and white exudates usually taking the form of white dots or spots, are found. The individual dots are rarely larger than the diameter of one of the main veins but occasionally one finds large plaques. These findings are usually bilateral but may be seen in only one eye. Where the exudates are present, especially in large and increasing numbers the prognosis is poor. In renal retinitis there is a more distinctive ophthalmoscopic appearance, it is always bilateral, and the patient generally dies within a few years.

The condition of the retinal arteries may be said to serve as a guide to the condition of the cerebral arteries and although this is true in the majority of cases, there are exceptions.

In pernicious anemia the hemorrhages are mostly flame shaped, the tendency to their formation beginning when the corpuscles have dropped to one-third. There are few patients with myelogenous leukemia who do not show retinal changes at some stage, first manifested by enlargement of the veins, sometimes the arteries; later hemorrhages either deep or superficial, followed by a general leucocytic infiltration of the retina and choroid.



In thrombosis of the cavernous sinus a varying degree of proptosis is constantly present due to venous edema and obstruction of the orbital cellular tissues. The proptosis starts on one side but later extends to the other side from extension by means of the circular sinus. This differentiates it from orbital cellulitis. Chemosis and edema of the lids is common and a peculiar bluish color of the lids due to engorgement of the veins is quite suggestive.

Hysterical blindness can generally be determined by the fields which are usually tubular or spiral shaped. It must be borne in mind that a hysterical condition is often superimposed on some organic disease. I have in mind a case where a young man 21 years of age became blind in the left eye within two days. Three days later he lost his sight in the right eye. The fundus findings were questionable. He was treated by hypnotic suggestion. Within a few days his vision had increased to 15/200 in the right eye and light perception in the left. In the meantime, however, his optic disc had shown a definite blurring and swelling of the upper nasal quadrant with tortuosity and engorgement of the veins. He is now in the hospital, his case probably being one of brain tumor.

In disseminate sclerosis the loss of sight precedes the atrophic changes in the disc. The atrophy never becomes complete. Alternate loss of sight and recovery may occur several times before changes in the disc can be seen. Defects in the fields are usually central and may be for colors or complete. When peripheral, they are generally irregular.

There are many conditions such as changes in brain tumor; ocular changes in dysentery, blindness from severe hemorrhage, amaurotic family iodycy, Mikulicz's disease, hemorrhage in the new born, tobacco and alcohol amblyopia and changes in the eyes from parasites and various chemicals and drugs which I have not covered, owing to the tremendous scope of the subject.

If I have succeeded in stimulating or awakening an added interest in the relationship between the ophthalmologist and the internist, I shall consider this feeble effort of mine to have been of some worth.

900 Carleton Bldg.

## THE TREATMENT OF GONORRHEA IN SOME EUROPEAN CLINICS\*

J. S. GROVE, M. D.

CHICAGO

The subject of gonorrhea is an old one, and the saying that there is "nothing new under the sun" may be aptly said about the treatment of gonorrhea. Even though the market is flooded with a hundred and one drugs each proclaiming their efficiency in the treatment of gonococcal urethritis, still much remains to be desired in the cure of this widespread disease. In spite of the above remarks, I wish to report some observations made while working in various venereal clinics in Europe, especially in Vienna and Frankfurt a/M. End results obtained in these clinics, and the fact that venereal diseases in general are on the decline in Europe have stimulated me to make this report. In passing it may be mentioned that most of the venereal work in these centers is done by dermatologists in contrast to our American cities where the work is mainly done by urologists. It appears that Europe takes its venereal diseases much more seriously than we do, because in talking with various workers in the field, they all were impressed by the decrease in the number of cases being seen. In Frankfurt a/M at the Universitäts Clinic, Professor Herxheimer told me that syphilis there was becoming a relatively infrequent disease. As to why this was taking place he had no definite reason. Although a decrease has also been noted in the incidence of gonorrhea, still they are noting many cases with severe complications, especially gonorrheal endocarditis.

Two drugs which are used a good deal in this country, namely, argyrol and mercurochrome are seldom if ever used abroad, because these drugs are too expensive. However, most of the clinics there have a large armamentarium of drugs which they use in the treatment of gonorrhea.

In America most of the workers use instillations and irrigations of various sorts modifying their treatment depending upon the absence or presence of complications. In the main the same may be said of workers abroad, however, Picker in Budapest does not use any local medication whatsoever, Glingar in Vienna believes in treat-

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ing his cases mainly through the urethroscope, and some French workers believe in the intravenous use of trypaflavine only. This all comes back to the viewpoint that when a disease entity has many and varied forms of treatment, one can rest assured that one is just about as effective as the other. So that when one worker says he gets good results with his form of treatment, still if one of us were to use it we probably would not note the miraculous results that he does. However, gonorrhea is one of the oldest diseases that man has known, and as yet no real cure has been produced. An old saying by Ricord is just as true today as it was years ago, namely, "we all know when a gonorrhea begins, but only the Lord knows when it ends."

I shall report in detail the treatment of gonorrhea in the male as practiced in the Oppenheim Clinic at the Willhelmina Spital in Vienna, because I had the opportunity of becoming thoroughly familiar with their treatment and also to observe the results obtained. Every worker in this clinic is first impressed with the fact that the cases must be handled with the utmost gentleness. This factor is not appreciated by a great many of the men working in venereal diseases.

On reporting to the clinic the patient is first examined in the regular way and a smear is made of the discharge, Gram stain being used. Another stain used a good deal is the Unna-Pappenheim solution (Methylgreen-pyranin). With this solution the gonococci are stained an intense pink and the protoplasm of the cell a bluish green. With this solution one uses the same technique as with methylene blue. It, therefore, offers a quick differential stain and in this is advantageous over the Gram stain.

The genitalia are examined very carefully for the presence of any complications. If there is any edema of the prepuce, balanitis, severe pain on urinating, marked inguinal lymphadenitis, swelling of the dorsal lymphatics or hematuria then local treatment is not instituted for at least 7-10 days. This point is very important to remember, because most of us are too prone to start local treatment as soon as a diagnosis of gonorrhea is made. Your cases of gonorrhea will clear up much more quickly if you will look carefully for these early complications, and avoid local treatment if they are present. If none of the above complications are present then treatment is started along three lines, namely,

internal medication, office treatment and home treatment. In all cases of gonorrhea the patient is advised to avoid spicy foodstuffs, sexual excitement, and alcohol and beer. The last being very important in Europe. Internal medication consists of (1) Sodium salicylate gr. 15, two to four times daily after meals. (2) a tea preparation of *Folia uva ursi* and *Herb herniari*; three cups of tea are taken daily containing one drachm of the above mixture to the cup of water, (3) Sandalwood oil 0.5 gram in capsule form is taken t.i.d. This internal medication is given as long as the urine remains cloudy. In addition Belladonna suppositories are given in order to avoid an epididymitis. These are used once a day during the course of the treatment. These suppositories are given to prevent anti-peristalsis of the vas deferens, because most workers there believe that an acute epididymitis results from anti-peristalsis of the vas aspirating infected material from the seminal vesicles. However, this point is a much mooted one, because some workers do not believe that anti-peristalsis of the vas occurs, but that the mechanism of an acute epididymitis is merely one of infected material being pushed from the infected seminal vesicles into the tail of the epididymis.

In cases which come to the clinic about 24 hours after the infection, i. e., when the discharge is mucoid, when the gonococcus is extracellular and no edema of the prepuce is present then treatment with 5% Reargon is started. This is used as an injection into the anterior urethra every two hours, also at night if possible. Sometimes an abortive cure has been obtained with this drug.

Aside from these early cases in which abortive treatment is tried, the patient is given the internal medication above described and irrigations are started with potassium permanganate (1:5000), using one liter of cold solution, with the container of the solution being only  $\frac{1}{2}$  meter above the level of the penis. Cold solutions are used because they produce a contraction of the cut-off muscle, and in this way do not allow the solution to enter the posterior urethra. These irrigations are given once a day, and with the utmost gentleness.

In addition local injections are started with  $\frac{1}{4}\%$  protargol, having the patient inject 8 cc. of the solution three times daily and holding it



for 3-5 minutes. The percentage of protargol is increased as the urine clears up and the discharge lessens. The solution should not produce any irritation, when it does so its strength is decreased. The irrigations of potassium permanganate are continued until the urine becomes clear, and then irrigations of protargol ( $\frac{1}{4}$ -2%) are started using only  $\frac{1}{2}$  liter of solution and adding 1 teaspoonful of powdered charcoal to the solution. The charcoal is supposed to absorb the toxins in the urethra. When the discharge becomes mucoid, then local injections of Albargin are used instead of protargol. One starts with  $\frac{1}{4}$ % per 1000 cc. solution and works up to a 2% per 1000 cc. solution. After this all local treatment is stopped and a smear is made following urethral milking. If this is negative for gonococci then instillations of silver nitrate are started. For the instillations a Guyon catheter is used instilling 1-2 cc. of a  $\frac{1}{4}$ % solution into the anterior urethra. This is done for 2 successive days and then the strength is increased until 2%. This solution is held for 3-5 minutes in the anterior urethra. These instillations are given only if repeated smears are negative for gonococci and the urine is clear. If smears are not negative for gonococci, then use instillations of 5-10% protargol solution or if the patient cannot tolerate silver nitrate use 5-10% protargol. After every Guyon instillation make a microscopic examination of the discharge.

After the use of 2% silver nitrate, and the smears are negative for gonococci then irritation tests are started for the final treatment of the anterior urethritis. In all, seven irritation tests are performed. These are done so as to stir up any hidden focus in the urethra.

1. *The first test* is the instillation into the anterior urethra of 2 cc. of 2% silver nitrate solution. The next day the urethra is milked and the discharge examined—if the smear is negative for gonococci then the

2. *second test is performed*, namely the instillation of 2 cc. of a 5% copper sulphate solution, and the discharge examined the next day, if negative then the

3. *third test* is done instilling 2 cc. of (1:10,000) mercury bichloride solution. The discharge is examined the next day and if negative then the

4. *fourth test* is done. This consists of sounding the anterior urethra with a Dittl sound.

This is a small straight sound used for the anterior urethra only. After this one waits two days, and then examines the discharge, if negative then the

5. *fifth test*, namely the instillation of 1 cc. of Lugol's solution is done. One waits one day and then

6. instills 1 cc. of 3% hydrogen peroxide solution and for the final test, 7. an intracutaneous injection with aolan is made. Three intracutaneous wheals are made on the forearm, and then the urethral discharge is examined the next day.

If all smears are negative the patient is discharged as cured. It has been noted that frequently patients will be negative up to the last test, and then the aolan (i. e., foreign protein) will stir up residual foci.

In cases of anterior urethritis which remain positive for a long time, then a method used is the so-called "pressure irrigation." Most of these cases which remain persistently positive are due to involvement of Littre's glands. An irrigating syringe (100 cc.) is used in conjunction with a Nelaton catheter, which has its tip cut off. The catheter is placed into the anterior urethra, and the patient told to use his cut-off muscle as if trying to stop urinating. Then with a series of short forceful injections one irrigates the urethra with a  $\frac{1}{2}$ % cold protargol solution using  $\frac{1}{2}$  liter of solution. During the pressure the lips of the meatus are kept tight over the catheter so that with each injection the urethra balloons out. After each injection the fluid is allowed to run out, and the procedure is then repeated. This method frequently clears up a long standing positive case.

In cases of total urethritis i. e., anterior and posterior, the patient is given the same internal medication as in an anterior urethritis, and the patient uses the same local injections as above mentioned. In the clinic, however, irrigations are used of warm solutions of the above drugs named i. e., potassium permanganate and protargol. The irrigating solution is held one meter above the level of the penis and first the anterior urethra is washed out, and then the fluid is allowed to run into the bladder. This irrigation is stopped as soon as the patient has the desire to urinate. After the irrigation the patient retains the solution for 5-10 minutes and then urinates. The patient should always

urate before any type of treatment. These Janet irrigations are sometimes difficult because of spasm of either the external or internal sphincter or both; in order to relieve this spasm one should engage the patient in conversation or at times novocain may have to be placed into the urethra in order to relieve this spasm.

Irrigations for both anterior and posterior infections are carried out with the Majocchi-Oppenheim tube which has some advantages over the Janet tip.

The same plan of treatment is then followed as in cases of anterior urethritis except when the final irritation tests are used they do not use mercury bichloride, Lugol's or hydrogen peroxide in the posterior urethra.

In cases in which the urine remains cloudy despite all treatment the following plan is used. Five cc. of a 40% solution of urotropin is injected intravenously every other day, then one hour later the entire urethra is irrigated with (1:5000) potassium permanganate. This is done b. i. d. for 4 days. Then (1:3000) potassium permanganate b. i. d. for two days, then (1:2000) for one day and then finally (1:1000) for one day. In these cases the urine usually becomes clear, but this treatment is not curative.

In this clinic cases of chronic urethritis are treated as follows: If the process is in the anterior urethra the urethra is massaged over a Dittl sound and then irrigated with 1/2% protargol solution. In addition the Kollmann dilator is used and also the method of pressure irrigation. Intramuscular injections of aolan are used in conjunction with the above measures. Chronic prostatitis and vesiculitis are treated by massage followed by instillations of silver nitrate into the posterior urethra. Also Diday rinsements are used routinely in these cases. This consists of passing a rubber catheter into the anterior urethra and irrigating with 3% boric acid solution. Then the catheter is passed into the posterior urethra and irrigated, then it is passed into the bladder and it is filled with the solution. Then the catheter is drawn gently back into the posterior urethra and it is irrigated again.

Complications such as epididymitis, prostatitis, cystitis and periurethritis are treated in practically the same manner as we do.

I have deemed it advisable to relate the treatment in this clinic in some detail because first,

of the uniformly good results obtained, second, because of the care and gentleness which the patients are shown, and third because the venereal clinics in Vienna in general follow this method with the notable exception of one, namely the Blum-Glingar clinic at the Sophien Spital. In the last named clinic urethroscopic measures are used to a large extent in the treatment of gonorrhea. The Blum-Glingar clinic is a haven for those interested in urethroscopy, and here one practically always finds visitors from all over Europe and America doing work under Glingar, who is looked upon as the peer in urethroscopy in Europe.

In general Glingar treats his cases of gonorrhea during the first 3-4 weeks with local instillations and irrigations, and then starts urethroscopy. The anterior urethra is first anesthetized with either 5 cc. of 2% tutocain solution or 10% novocain. The urethroscope is then passed and the urethra examined. Small areas of erythema are touched up with either tincture of iodine or 1/2% silver nitrate solution. Infected Littre's glands are cauterized with the electric cautery under direct vision through the urethroscope. This treatment is carried out once a week until the urethra assumes a normal appearance. He does not treat cases of posterior urethritis through the urethroscope but employs irrigations of various kinds. Personally I was impressed by the results he obtained especially in cases of chronic urethritis. The urethroscope which he uses is entirely different from our American instruments, and one which can be handled very easily after a little practice.

In some French clinics, cases of gonococcal urethritis are treated by the use of trypaflavine intravenously, injecting 10 cc. of a 1% solution every other day. No local treatment is used. This treatment is effective during the spring and summer time when some chemical change occurs in the body as a result of the sun's rays. Very frequently during the treatment the patient's face undergoes color changes, which are, however, temporary.

In conclusion I wish to state that more careful attention paid to early complications in cases of gonorrhea, and subsidence of local treatment if same are present, plus gentleness in the handling of the urethra will result in better end-results in the treatment of gonorrhea.

104 S. Michigan Ave.



## LUNG ABSCESS\*

L. E. HANDELMAN, M. D.

CHICAGO

There is no more interesting subject today, either in the field of medicine or of surgery, than lung abscess. Not only is this disease interesting because of its own inherent features but particularly because of its connection with chest surgery. This relationship is of especial importance, for, whatever progress has taken place in the treatment of pulmonary suppuration is dependent almost entirely on the progress made in chest surgery.

Other branches of surgery have, indeed, made remarkable strides within the last two decades. But not until recent years did surgery of the chest make any progress whatever. The reasons for this dormancy have now become obvious. Essentially they were, in the first place, a poor understanding of the physiology of the thorax, and in the second place, a fear of creating an open pneumothorax. But, thanks to the splendid work of Graham<sup>1</sup>, these fears have now been almost completely dissipated. And so it has come to pass that thoracic surgeons have now acquired a boldness and confidence not unlike that of abdominal surgeons.

Indeed, few new procedures have been added or devised in the treatment of chest disease. But, because of the greatly improved knowledge of the physiology of the thorax, old methods have been taken up again, studied from the new point of view, properly evaluated and more carefully standardized. As a result of these newer conceptions, pathologic entities, formerly regarded as hopeless, have now assumed a brighter hue and a more hopeful prognosis.

Let us consider bronchiectasis, for example. For over twenty years, this disease was looked upon as absolutely hopeless. Now, by the cautious lobectomy of Graham and the graded thoracoplasty of Hedblom, patients afflicted with this disease have been given a new lease on life.

Pulmonary tuberculosis has also been freed from some of its terrors. By means of pneumothorax, phrenicotomy and thoracoplasty, this dread disease has taken on to itself a new ray of hope. The closed method of drainage in empyema has greatly decreased the mortality as

well as the morbidity that was formerly associated with this disease<sup>2</sup>. But the brightest chapter in chest surgery is to be found in a consideration of pulmonary suppuration.

*Etiology.* That there are numerous debilitating conditions which predispose to lung infections is well recognized by the profession; that such conditions may result in a diminished pharyngeal and cough reflex, impaired motility of the cilia and, what is of greater importance, a lowering of the natural immunity of the lung, is also well recognized. The exciting factor assumes an emphatic role only in the presence of some such predisposing conditions.

Among the exciting causes the more prominent ones are:

1. Operations about the nose and throat.
2. Aspiration of foreign bodies, especially in children.
3. Bronchopneumonia, rarely lobar pneumonia (Lockwood).
4. Embolic infarcts, particularly following abdominal operations.
5. Extension of adjacent suppurative conditions.
6. Injuries to the chest.
7. Rarely in carcinoma, syphilis or actinomycosis of the lung.

Ever since 1912, when Richardson first called attention to lung abscess as a complication following tonsilectomy under general anesthesia, numerous reports have appeared bearing on this complication with increasing emphasis. Moore states that one in every twenty-five hundred tonsillectomies develops lung abscess. At the Mayo Clinic it was found that in 208 cases of lung abscess following tonsilectomy, 201 of them ensued after general anesthesia. There is still some question as to whether this complication is due to aspiration or embolic phenomena. However, at the present time, it seems to be the consensus of opinion that aspiration plays the important role. It might be of interest here to mention the experimental work of Cutler and Hunt on aspiration. Working on dogs, they found that aspiration varies in direct proportion to the position of the body. When the foot of the table was raised about 28 cm. above the head, aspiration never occurred. With raising of the head the number of aspiration cases increased; especially was this marked when the anesthetic was taken badly and when there was

\*Read before Douglas Park Branch, Chicago Medical Society, Feb., 1928.

vomiting. Smith<sup>3</sup>, by experimenting on animals, concludes that aspiration of infected material from the teeth and tonsils causes the greater number of lung abscesses. The fact that the right lung is most often involved is in favor of this theory.

Foreign bodies should not be overlooked in the pathogenesis of this complication. Especially in children, and not infrequently an unexpected finding in adults. When the foreign body lodges behind the heart the most careful roentgenologic examination will often fail to reveal it. In suspicious cases, therefore, a competent bronchoscopist will be of the greatest help in clearing up the diagnosis.

Embolic infarcts play their part particularly in abdominal operations. Cutler and Hunt state that two per cent. of all operations, four per cent. of all abdominal operations and eight per cent. of epigastric operations are followed by pulmonary complications. It is rather difficult to speak on this phase of the subject with positive assurance. What the mechanism is that causes or produces pulmonary infarctions in abdominal operations has not as yet been definitely explained. It would seem that restricted excursions of the diaphragm has a good deal to do with this complication. Less doubt prevails in cases of pyemia or septicemia.

Confusion will occasionally arise in cases of carcinoma of the lung. Here it should be remembered that in about ten per cent. of the cases suppuration will occur, with the result that serious mistakes will be made both as to diagnosis as well as prognosis.

*Pathology.* The character of any abscess depends on several factors, one of which is the site of the abscess. There is a vast difference, for example, between a staphylococcic abscess of the soft tissue of thigh and a similar infection of the femur. Likewise, a lung abscess has its distinctive features. Whereas an abscess of thigh will readily collapse when opened and drained, it will not readily collapse in the lungs with like treatment. The reasons for this are, a rigid chest wall, negative intra-thoracic pressure and often, pleural adhesions. Hence, the tendency to chronicity in lung abscess. Another circumstance that tends to chronicity is the fact that almost every lung abscess is associated, to some degree, with bronchiectasis<sup>4</sup>. The opposite is just as true. Clinically, it is therefore almost

impossible to draw a sharp distinction between the two conditions.

As to the difference between an acute and a chronic abscess, the distinction is merely arbitrary. Lockwood considers an abscess of more than two months' duration as chronic. Almost all abscesses are therefore chronic by the time a positive diagnosis is made. Lung abscesses may be large or small, single or multiple. According to Lilienthal, a single abscess is usually due to aspiration, while multiple abscesses are due to blood stream infections. The majority of lung abscesses are peripheral and the right lung is involved three times as often as the left lung. An abscess due to a foreign body is most often in the right lower lobe while an abscess following tonsillectomy is usually in the right upper lobe. Jackson<sup>5</sup> calls attention to the interesting observation that, irrespective of the duration of an abscess due to a foreign body, it will readily clear up by the bronchoscopic removal of the foreign body; that these abscesses are, as a rule, marked by a mild, slow and restricted process in contrast to abscesses of other origin.

As to the bacteriology of lung abscess, it may be said that all the germs that are normally found in the mouth and pharynx are also to be found causing the abscess. For purposes of proper therapeutics, it is of importance to know whether an abscess is due to spirochetes, fusiform bacilli or actinomycosis. In these cases the treatment becomes almost specific. But for purposes of proper surgical treatment, it is best, according to Graham<sup>6</sup> to divide all pulmonary suppurative conditions into three types—the peripheral abscess, the hilum abscess and multiple abscesses.

*Symptomatology.* In general it may be said that this disease is one of symptoms rather than one of physical findings. Therefore it becomes of the utmost importance to elicit the most careful history, particularly with reference to operations about the nose and throat, to operations in the upper abdominal cavity and with reference to a history of pneumonia.

In the pneumonias one finds an absence of a clear crisis; or, if there was a crisis, that shortly afterwards the cough became exaggerated, the temperature assumed a septic type and that gradually the patient's condition grew worse.

Following tonsillectomy, many days elapse be-



fore onset of symptoms and then they may develop very gradually indeed. Harrington<sup>4</sup>, however, remarks that the onset may be sudden with chills and fever and that the disease runs a rapid, severe course with marked prostration; and cases of this type are reported where putrid pus appeared in ten to fifteen days following the removal of the tonsils.

After abdominal operations the onset is usually abrupt, with pain in the chest, rapid respirations, fever, cough—the so-called post-operative pneumonia.

In the majority of these suppurative conditions there is a characteristic paroxysmal cough, a foul, putrid expectoration and a fetid breath. The breath may be offensive even when the abscess is closed and there is no raising of foul sputum. Dyspnea, cyanosis, pain in the chest, are usually present to some extent. Hemorrhage, either in the form of blood-streaked sputum or severe hemoptysis is present in at least fifty per cent. of the cases. Clubbed fingers or watch-crystal nails are to be found sooner or later in most of these patients.

Constitutional symptoms characteristic of sepsis are present in nearly all the cases. Septic temperature, tachycardia, leucocytosis, anorexia, loss of weight, weakness, pallor, all fit into this picture of infection.

Physical examination reveals few typically characteristic phenomena. The observant clinician will be able to elicit signs of cavity in about one-third of the cases; dullness and diminished transmission of breath and voice sounds in most of them. Roentgen-ray examination is of far greater value especially if taken in various positions.

*Diagnosis.* The diagnosis of lung abscess, while beset with many difficulties, can be arrived at if careful attention is paid to the history; if thorough roentgen-ray work is done, aided, if necessary, by lipiodol injections; if the chest is carefully examined; and if the character of the sputum is taken into consideration. The aspirating needle is mentioned only to be condemned. It should be used only when the surgeon is ready to proceed with his operation. Otherwise there is always the danger of producing an empyema, pyopneumothorax or a phlegmonous infection of the chest wall.

*Treatment.* In no other disease is more careful discrimination necessary than in the manage-

ment of pulmonary abscess. Every one of these patients should, therefore, be carefully studied and supervised by a team of workers, consisting of an internist, a surgeon, a roentgenologist and a bronchoscopist. For each of these patients will present his own specific problem. It is, therefore, a serious mistake to attempt standardization in treatment.

*Medical.* The acute cases should, as a rule, be in the hands of the internist. When the infection is due to the spirocheta of Castellani or to the fusiform bacillus, Pilot reports excellent results from the intravenous administration of salvarsan. Where the lesion is due to aspiration of a foreign body, the bronchoscope is of inestimable value. This instrument will also give excellent service in aspirating pus from the cavity, in irrigation and in dilating narrow channels leading from pus cavities. Many of these abscesses will rupture into a bronchus and will be completely obliterated without surgical intervention. To enhance drainage in these particular cases, the posture of the patient is of great importance. This varies with different patients and sooner or later each patient discovers what posture is best suitable for his own case. At times old operating tables may be used for postural drainage—about two or three times a day and not too close to meal time. In addition to these measures, much can also be gained from rest, high caloric diet, fresh air, and heliotherapy. With this régime about half the cases will eventually make a complete recovery.

*Surgical treatment.* Surgical procedures are instituted only after medical treatment has been given a thorough trial. Surgery should not be resorted to during the "formative stage of the abscess."<sup>6</sup> It would seem that those of the widest experience show more and more conservatism as time goes on. However, in the end, there will always remain a certain number of cases for which no other treatment but surgery will be applicable.

The peripheral abscess has the clearest indications for treatment—drainage, wide and continuous, until the cavity has been obliterated. Where adhesions already exist, it is but necessary to resect a portion of one or more ribs under local anesthesia, locate pus with the aspirating needle, cut down alongside the needle and insert a drain. The cautery is perhaps the ideal instrument in these cases. Where there are no ad-

hesions present, it becomes necessary to produce them. A two-stage operation then becomes preferable. The first stage consists of the resection of the ribs and packing gauze entirely around the wound between the visceral and parietal pleura; and leaving this gauze in place for about five days at which time adhesions will have formed. The abscess may now be drained with safety.

The hilum abscess is of more serious import and presents greater difficulties in its management. The underlying principle in the treatment of this type of case is the collapse of the abscess cavity.

In the simplest way this may be brought about by pneumothorax—injections into the pleural cavity of about 400-500 cc. of air every four to five days until the cavity is obliterated. Where dense adhesions prevail, pneumothorax is bound to fail. Matson, speaking before the Chicago Medical Society, demonstrated the Unverricht thoracoscope for severing such adhesions and by the use of which he reported excellent results.

*Phrenicotomy.* The removal of a large enough section of the phrenic nerve is particularly of value in abscesses of the lower lobes. This procedure causes a paralysis of the diaphragm, which, rising into the pleural cavity, produces pressure on the abscess cavity and thus helps in its obliteration.

There will always remain some cases which will not respond to pneumothorax or section of the phrenic nerve. Thoracoplasty should then be tried. This operation, usually preceded by phrenicotomy, consists in the removal of all the ribs on the affected side by graded procedures. Usually three or more operations are necessary. They are to be performed under local anesthesia, and, now and then, aided by light gas anesthesia. No thoracoplastic operation should last much more than one-half hour and should not be repeated in less than five to seven days. The purpose is to collapse the chest wall downward and inward. This is the most radical procedure in the management of the hilum abscess and, hence, should be used only as a measure of last resort.

In the treatment of multiple abscesses the greatest of difficulties are presented and the treatment becomes of the most heroic kind. Lilienthal<sup>7</sup> has resorted to lobectomy in these cases with excellent results. In the hands of others,

however, the results have not been so favorable, due to a complicating suppurative mediastinitis. Graham<sup>8</sup> is not very enthusiastic about lobectomy as recommended by Lilienthal. Instead he does a lobectomy by reaming out the diseased lung tissue by means of an actual cautery. In this manner he avoids to a very great extent the danger of the suppurative mediastinitis. Graham does his cauterization in several stages and in a series of thirty-four cases, seven died and twenty-seven were either cured or greatly benefited. Considering the serious condition of these patients, such results are more than promising.

In the vast field of surgery there may be some branch wherein excellence has been reached. If so, it was only after decades of bitter experiences. No one has as yet referred to chest surgery in terms of exaltation. Justly, one may say that this new branch is but on the threshold to a new era, leading toward a brighter and more hopeful outlook.

#### CONCLUSIONS

1. The delay in the progress of chest surgery was due principally to a lack of understanding of the physiology of the thorax.

2. Tonsillectomy under general anesthesia plays an important role in the causation of lung abscess, aspiration being the immediate cause.

3. The simplest and at the same time, most comprehensive classification of lung abscesses is the peripheral abscess, the hilum abscess and multiple abscesses.

4. Lung abscess is a disease featured rather by symptoms than by physical findings. A patient, presenting a paroxysmal cough, foul sputum, fetid breath, cyanosis, clubbed fingers and symptoms of sepsis, does not offer a serious problem for diagnosis.

5. The peripheral abscess is usually treated by external drainage, consummated through a one or two stage operation.

The hilum abscess is treated best by pneumothorax, phrenicotomy or thoracoplasty. Multiple abscesses present the gloomiest outlook. Lobectomy or cautery pneumectomy, performed by the specially skilled chest surgeon, offers promising results.

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## CLINICAL ASPECTS OF OVARIAN TRANSPLANTATION WITH REPORT OF FORTY-FOUR CASES\*

MAX THOREK, M. D.

Surgeon-in-Chief, The American Hospital  
CHICAGO

Study of the literature of recent years shows quite clearly that the transplantation of ovarian tissue has passed the experimental stage and become an established surgical procedure, with well defined indications. A great deal of laboratory work has been done by Alexander Lipschütz<sup>1</sup>, who states that "There can be no doubt actually that ovarian transplantation and homeotransplantation succeed exceedingly well in laboratory animals."

Martin<sup>2</sup>, who made an exhaustive survey of the literature regarding ovarian grafting and transplantation five years ago, reached the general conclusion then that while autotransplants gave some evidence of success, in deferring the symptoms of the menopause and delaying the cessation of menstruation, homeo- and heterotransplants gave practically no such evidence. I think that the results reported since that time justify a modification of that opinion, as it has been abundantly proved that homeotransplantations can give results that equal those of autotransplants. Lipschütz<sup>3</sup> says, "What can be said with certainty is that under certain technical conditions even homeotransplantation gives in most cases a positive result." Moreover, I think that in time methods will be devised whereby heterogenous ovarian grafts will be found both practical and effective.

The general indication for ovarian transplan-

tation is avoidance of the neuropathic and constitutional symptoms brought about by a pathological or artificial menopause. Hence, transplantation is indicated after a bilateral castration or double salpingo-oöphorectomy in a woman within the sexual life cycle. In cases of dysovarism, or ovarian insufficiency, implantation of foreign ovarian tissue is indicated to supplement the deficiency without the removal of the existing ovaries; this class would also include cases of sterility. I think there is also a third general indication; i. e., to avoid or modify the neuropathic phenomena and mental imbalance which often occur at the time of the natural menopause in certain types of women who have a neurotic or hysterical temperament. I have personally obtained a large measure of successful results in a number of such cases. Within the period of the last eight years I have transplanted ovarian tissue in forty-four cases, for various indications. Before referring to my results in these cases, however, a short resumé of what the literature shows regarding the present aspects of ovarian grafting will not be out of place. This will include both experiments on animals and the clinical work on the human subject.

### *Auto- and Homeotransplantations of Ovaries in Animals:*

Knauer<sup>4</sup>, in 1895, appears to have been the first to successfully transpose the free ovaries from one site to another in the same animal. He demonstrated microscopically that the transposed ovarian tissue was functioning some months after operation, and that there was no uterine atrophy. In 1900 he reported<sup>5</sup> further results of autografts in animals, showing that these ovaries continued to function for some years, and that gestations occurred when the implantation was made in the uterine cornua.

Grigorieff<sup>6</sup>, in 1897, in four animal experiments in which the free ovary was re-implanted in the uterine cornua reported four subsequent pregnancies. Ribbert<sup>7</sup> demonstrated that ovarian heterotransplantations were less successful than auto- or homeotransplantations, and Foàs<sup>8</sup> experiments showed that homeotransplants of the ovaries of young animals were more successful than transplants of older adult ovaries.

McCone<sup>9</sup>, in the United States, reported successful auto-, homeo- and heterografts of ovaries

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in rabbits. He considered that the grafting of animal ovaries could be used in the human species to prevent uterine atrophy, postcastration nervous symptoms and similar phenomena.

Fish<sup>10</sup>, in 1899, also stated that he had made several successful ovarian homeotransplantations in rabbits.

In 1911, Uffreduzzi<sup>11</sup> reported the implantation of free ovaries in the uterine cavity of rabbits and guinea pigs, and stated that such transplants preserved their viability. He was skeptical concerning ovulation.

Estes<sup>12</sup> reported two pregnancies in bitches following implantation of free ovary in the uterine cornua.

Benesch and Kohler<sup>13</sup> placed the free ovary, either whole or in part, in the uterine cavity, fastening it to the uterine wall by a few sutures, but these grafts did not take.

These authors also carried out in dogs a number of implantations of the ovary in the uterine cavity, preserving the vascular ovarian pedicle. In the cases in which the implanted ovary survived it was histologically proved to have preserved its function, but pregnancy failed because the ovary was separated from the uterus by a thick layer of epithelial and connective tissue.

In regard to homeoplastic transplants, Knauer found the results less regular than in the case of autografts, which, of course, stands to reason.

In the experiments of Castle and Philipps<sup>14</sup> in 1913, made on 141 guinea pigs, they found that only a few pregnancies followed.

Experimental work by Kross<sup>15</sup> in rats showed that homeografts of ovarian tissue in castrated animals resulted in a far greater degree of preservation than did similar grafts in non-castrated animals due, Kross thinks, to functional demands. The younger and more immature the graft, the greater is the growth potentiality.

Pettinari's<sup>16</sup> recent reports of experiments in 332 animals showed that ovarian tissue transplanted into animals of the same species can be made to live, elaborate the normal internal secretion, and assume the germinal function. The formation of *corpora lutea* was observed especially in autotransplants; follicle atresia was the rule in heterografts.

From these and several other reports in the literature it appears clear that full term preg-

nancy is possible after an ovarian homeotransplantation.

Klob<sup>17</sup> implanted very young ovaries in a senile goat, with resulting "rejuvenation" aspects and pregnancy. A profound somatic and psychic transformation was observed. This is in line with the regeneration of old ovaries after implantation of young ovaries in rats, as reported by Steinach<sup>18</sup>.

Pettinari<sup>19</sup> also mentions the experimental transplantation of young ovaries on the old ovaries of a sixteen year old bitch, with reestablishment of the functions of the animal's own ovaries and remarkable general improvement.

Lipschütz also found in animal experiments that homeoplastic intramural ovarian transplantation gave, in almost every case, a positive result. In heterotransplantations, on the other hand, failure was the rule. This he believes may be due to the difference in biologic relationship, and referring to my work on heterotransplantation of the testicle he states that there may be clinical possibilities in that direction.

#### *Autotransplantation of the Free Ovary in the Human Subject:*

Morris<sup>20</sup> was the first, in 1895, after radical removal of the ovaries and tubes in a woman aged twenty-six, to graft a piece of ovary to the interior of the stump of one tube. The woman became pregnant a month later but aborted at the third month.

In Franck's<sup>21</sup> case, after removal of both tubes and one ovary from a woman of twenty years, a fragment of ovary was sutured to the uterine part of one tube which had been preserved. Regular menstruation followed after a few months. In two other similar cases pregnancy and normal labor followed in one and abortion in the other.

Bainbridge<sup>22</sup>, in 1905, reported a case in which after removal of both tubes and ovaries from a woman aged thirty-nine, a piece of ovary was grafted to the stump of a tube in the uterine cornua. This was followed in a few months by menstruation, then by pregnancy and labor at full term, with a living child. The woman continued to menstruate to the age of fifty-one.

Estes<sup>23</sup> has reported such free ovarian grafts in which a fragment of removed ovary was reimplanted after bilateral salpingectomy in the stump of the tube, and sutured to the cornua of the uterus. All patients so treated escaped



the neuropathic manifestations usually observed in young women who have lost both ovaries, two of the patients became pregnant, one going to full term.

In Nattrass's<sup>24</sup> case the autografting of both ovaries into the abdominal wall has been followed by regular menstruation for thirteen years, with no symptoms except slight swelling at the site of the graft at the time of menstruation.

Mayer<sup>25</sup> reported five cases in which the graft was implanted and fixed by sutures in the uterine wall. In one case the graft was expelled, and none of the women became pregnant.

Mansfield<sup>26</sup> did autoplasic free ovarian grafts in fifty cases, of which forty were reviewed. The uterus as well as the ovaries were removed in eighteen cases. In every case where the uterus was left there was without exception a good result which continued from one to three years. About half the cases in which the uterus had been removed were symptom-free up to four years following the transplantation. The transplantation site was between the rectus muscle and fascia.

Heinmann<sup>27</sup> also reported good results in four cases of autoplasic free grafts.

#### *Intra-uterine Transposition of the Ovary With Its Vascular Pedicle in the Human Subject:*

A large number of operations have been reported in the literature in which after radical removal of both tubes, one or both ovaries being left behind, an ovary was re-implanted in the uterine wall or cornua, its vascular and nervous pedicle being preserved. Palmer Dudley<sup>28</sup>, in 1899, was the first to transplant the pediculated ovary into the uterine cavity. Tuffier<sup>29</sup> had forty-nine, and Estes<sup>23</sup> 100 such cases, principally in young women. Other cases have been reported by Petit<sup>30</sup>, Robineau<sup>31</sup>, Storer<sup>32</sup>, and several others. In forty-one of Tuffier's cases which were traced menstruation was resumed in all except two, and in twenty-one cases it was regular. In some instances pregnancy and normal labor followed. Only twenty-seven of Estes' patients were followed, and among these there were four pregnancies and two living children at term.

#### *Ovarian Homotransplantations in the Human Subject:*

Martin<sup>33</sup>, in 1903, transplanted ovarian tissue in the remains of the broad ligament of a young

woman after ablation of the tubes and ovaries. Menstruation followed regularly.

Morris<sup>34</sup>, on 1906, reported a case of ovarian homeograft in the broad ligament following bilateral castration. Pregnancy ensued, with normal labor and a living child. He did fourteen other similar grafts, and in this group one pregnancy occurred but the patient aborted.

Sippel<sup>35</sup> observed four pregnancies in four cases of hypo-ovary in which a homeograph was executed to supplement the deficiency. In these cases the patients' own ovaries were not removed. The same operation, with similar results, was carried out by Croom<sup>36</sup> and Lee<sup>37</sup>. Engel<sup>38</sup> and Hartlung<sup>39</sup> also have reported satisfactory results from homeografts. Engel's patient has been under observation for ten years and has been entirely free from the symptoms of the menopause. In Hartlung's cases hypo-ovarian symptoms appeared again at periods varying from one to one and three-fourths years following the transplantation.

#### *Ovarian Heterografts in the Human Subject:*

Only a few clinical cases of ovarian heterografts are reported in the literature. Ortega<sup>40</sup> transplanted both ovaries of a sheep in the period of full genital activity into the aponeurosis of the left obliquus muscle of a young woman, aged eighteen, with ovarian insufficiency. There was disappearance of symptoms and establishment of normal menstruation, which had continued to the time of the author's report, in 1924.

Hunt<sup>41</sup> reports that he has made many heteroplastic grafts of ovaries in the human female, using the ovaries of sheep as a rule. The histories of some selected cases are given to prove the efficacy of such grafts.

Unterberger<sup>42</sup>, Voronoff<sup>43</sup> and Pettinari appear to believe that heterografts from simians to the human have possibilities. The only question seems to be that the transplant shall be carefully located, although the possibility of the fecundation of a foreign ovum by human spermatozoa is extremely doubtful. My own preference is for human material for ovarian transplantation. Chemical, hematologic, biologic and structural differences of heterotransplants appear to me to prohibit their use. The only exception to this statement may be the material obtained from a chimpanzee. In my hands all others utterly failed. In all my cases herein reported only human material was used.

### *General and Special Effects of Ovarian Transplants:*

As careful an observer as Biedl<sup>44</sup> says that the presence of a portion of one ovary in any part of the body is sufficient to maintain the complete anatomical integrity and functional activity of the genital organs of the female.

The effective value of a transplant, however, depends on several factors: upon the stage of development of the transplanted ovary; upon the relationship between donor and recipient; upon whether or not the uterus or ovaries, or both, are present in the recipient, and upon whether or not the graft is free or preserves its vascular connections.

It seems to have been overwhelmingly proved that when the uterus is intact the presence of an ovary, in whole or in part and with or without its blood connections, will bring about the function of menstruation after a few months and preserve it for a varying length of time. Tuffier's and Bour's<sup>45</sup> experience was that this time is from three to five years after operation in the case of free autogenous grafts, but several cases of much longer duration have been reported.

Moreover, apart from genital functioning, a successful transplant of either the auto- or homeo- variety, free or otherwise, has a very favorable effect upon the health of the recipient. It goes without saying that when menstruation is preserved the neuropathic disturbances accompanying a premature menopause in women within the sexual cycle are obviated.

The literature also shows that the implantation of a free or pediculated ovary, in whole or in part, within the uterus or in the stump of a tube still attached to the uterus, is capable of being followed by a normal pregnancy and labor. The implantation of an ovary with its vascular pedicle in the uterus is a logical operation in suitable cases. It is logical because the ovary is nourished; it is useful because the ovary lives and functions; menstruation is not disturbed in its rhythm or duration, the woman escapes the disturbances of the menopause, and pregnancy is possible if this is desired.

Pettinari<sup>16</sup> states that the physiological action exercised by an ovarian transplant is of two kinds, which is the same in both sexes, although it differs in intensity. This consists in a general action on the development and metabolism of the individual, especially in the genital tract

and mammary glands, these effects at times being more marked than in the normal.

The influence of the ovary is not limited to the development and functioning of the sexual and mammary apparatus, however, but extends to all the morphology and into the psychism of woman. The ovarian secretion governs the "feminine" attributes of the human female.

The question of the "taking" of an ovarian transplant cannot be considered merely as a simple question of technic, of choice of site, or of operative dexterity. It is a complex biological question. The endocrine action of the ovary (as shown by our physiological knowledge and clinical and experimental findings) is indispensable to the normal functioning of the female organism. When it fails, when it is insufficient, or when it is altered the whole individual suffers. Much of female pathology is directly or indirectly connected with the ovary, and the solution of the technic of ovarian transplantation will also solve a problem which is fundamental in the realm of female diseases. Pettinari further observes that the natural ovarian secretion in the female cannot be replaced by other internal secretions, but can be supplied by transplanted tissue which, when successful, will carry the organism to complete sexual development, and fulfill all physiological needs dependent upon the ovarian secretion.

While the autogenous graft is generally admitted to be the most likely to succeed, homologous grafting has proved quite effective, as shown by the results of the authors cited. Close blood relationship does not seem to be an absolute necessity for therapeutic purposes, yet, as Hartlung has suggested, it is very desirable that there should be compatibility between the blood of the donor and that of the recipient, and typing should be done just as in the case of blood transfusions.

The success of transplantation in general varies directly as the difference in blood biologic reactions. Hence, as I have shown in my work on the human testes<sup>46</sup> there is a strong reason for the success of transplantation between the higher anthropoids and the human species in the very close blood affinity of the two species. On the same subject Professor Retterer<sup>47</sup>, in alluding to Voronoff's heterografting experiments, says that "the success of the testicular graft from the chimpanzee is readily explicable: It is due



to the close zoölogical affinity between the anthropoids and man, their elements, more particularly their humors, possessing properties if not identical yet very similar."

A final effect of ovarian transplantation in the female is that of so-called "rejuvenation." This effect has already been alluded to in the experimental observations on animals, and Sipel claims such a result in an old woman after an ovarian transplantation. As I have already stated elsewhere<sup>48</sup>, I protest emphatically against the term "rejuvenation" being applied as popularly accepted. The public receives the impression that men and women become young again, but no organ or set of organs can be restored to their pristine condition by any known method. The preservation of the gonadal functions in both men and women will, however, preserve them from the senile physical and mental degeneration which follows gonadal loss, and will conserve the virile or feminine characteristics which denote gonadal presence and functioning.

That ovarian transplants, especially the autogenous variety, live a long time there can be no doubt. Mauclore<sup>49</sup> had the opportunity to examine histologically an ovarian autograft which he had placed in the omentum eight years before. The transplant had remained alive for this period, and contained an ovarian follicle and corpus luteum. Natrass<sup>50</sup> made a microscopic examination of an autograft which had been under his observation for nine and a half years. At the end of this period perfectly formed graafian follicles and *corpora lutea* were demonstrated, with abundant vascular connections.

That there is an interdependence between the ovary and the other endocrines is well known. These facts have been stressed by Evans and Smith in this country, and by Zondek and Aschbeiner in Germany. The latter showed that follicular development is greatly influenced by the anterior lobe of the hypophysis. Sexual precocity can be produced in young animals into whose bodies the anterior lobe of the pituitary has been engrafted.

#### *Technic of Ovarian Transplantation:*

The chief points on which the successful taking of a transplant depend are proper material, asepsis, and, of course, proper nourishment of the implant. Infection reduces the vitality of the graft, and in addition saturates it, as well

as the tissues in its vicinity, with toxins. For this reason also the bed, or site, in which the implant is placed should be as free from blood as possible.

When a homeoplastic operation is to be done it is best, if possible, to simultaneously operate on both the donor and recipient. Zondek and Wolff<sup>51</sup> preserve the removed ovarian tissue, to be used for transplanting, in a refrigerator; then it is sterilized and examined histologically and bacteriologically before use. But tissue preserved for some time in cold storage is likely to undergo autolytic changes. In my work I transplant the tissue immediately upon removal.

The re-implanting of the whole or part of a healthy ovary, preserving its nervous and vascular connections, into the uterine cornua, wall, or elsewhere is the best procedure in regard to security of nourishment for the graft, care being taken that its site is free from infection. With free grafts, either autogenous or homogenous, the site chosen must be in a richly vascular region. Mauclore<sup>52</sup>, and Bainbridge<sup>53</sup> place the graft behind the rectus muscle lying on the deep epigastric artery and vein. More than 200 of Tuffier's grafts were placed in the abdominal wall and extra-peritoneally. When Pettinari resorts to transplantation as an aid in cases of hypo-ovarian function, he places the transplant on the existing ovaries, or in their vicinity. He thinks that when a graft is intra-peritoneal its surface is best free, rather than enveloped in the peritoneum.

Before being placed in its site some workers prefer that the ovarian cortex be removed. I use the entire ovary. Blair Bell<sup>54</sup> and Pettinari cut the ovary into fragments so as to increase the surface at expense of volume. Hunt<sup>41</sup> bisects the ovary, and sutures it in its bed.

In my practice I have adopted the same technic as that employed with testicular transplants<sup>55</sup>. The entire ovary is used, the graft being placed in the suprapertoneal space between the rectus muscle and the peritoneum. Here the transplant is gently secured in its position by the slight pressure exerted from above by the rectus abdominalis muscle, the "give" of the loose peritoneum beneath preventing any undue pressure on the implant by reason of contraction of the abdominal muscles, or from any extrinsic causes. This region is also particularly well vascularized, and the implant soon organ-

izes an ample nourishment. No sutures are used to secure the ovary in place.

Since 1920 I have performed the operation of homeo-ovarian grafting forty-four times altogether. In about twelve of these cases the operation was indicated because of symptoms of artificial menopause, due to bilateral castration in women within the cycle of genital activity. In eight cases the uterus was intact, and menstruation was re-established in three cases following the transplantation. Four other patients were at the actual menopause, but showed very strongly marked psychic symptoms. Of the other patients who received this treatment some showed mild psychic symptoms, but all showed vasomotor instability and symptoms usually observed at the time of the menopause. None of these patients had been castrated, but many were of the strongly neurotic type and all had arrived either at the actual menopause or within a short time of it. The indication for which the operation was done in these cases was to obviate the disturbances of the menopause, or at least to modify their intensity.

Of this series, thirty-six of the patients have been traced. About 60 per cent. of those with exaggerated psychic and neurotic symptoms were completely restored, showing an entire disappearance of symptoms and an excellent general state. In the other cases the symptoms were ameliorated more or less. In no case was there any untoward result from the operation, nor were there any sequelae for which the transplantation could be incriminated.

Five of the patients were re-operated on for other abdominal conditions within one to four years following the transplantation operation, affording me thereby an opportunity to examine the graft. In four of these cases the transplanted ovary was found *in situ*, but in the fifth case it could not be traced. As in cases of testicular transplantation in the same region in males, the transplant was found much diminished in size, but alive and well vascularized. The area about the transplant was partly fibrous, but with increased vascularization at the site of grafting. Unfortunately, no histological examination of the transplant was made in any case, for I did not care to disturb the implant.

From my experience I am satisfied that homologous transplantation of ovaries is a practical surgical operation which, when executed with

the customary surgical precautions, exposes the patient to little or no risk. Also, that this procedure obviates in a great measure the distressing neuropathic phenomena which accompany the actual or artificial menopause, and that it has a distinct place in surgical practice. The transplant in many instances becomes vascularized and lives, as far as can be observed, for several years and its presence has not been observed to cause any noticeable inconvenience.

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### HOSPITAL CHARGES REGARDED AS NOT EXCESSIVE

A recent survey conducted by the Federal Bureau of Labor Statistics of the Department of Labor has shown that although the cost of hospital care has risen since 1913 this increase is not in proportion to the growing cost of operation nor equal to the cost of other public services.

Although there seems to be a general impression that hospitals are maintained at unreasonably high costs a careful examination of the facts indicates economy and efficiency on the part of those in charge of these institutions.

John A. McNamarry in an article, the Modern Hospital, June 28, presents figures and arguments which are instructive.

It is estimated that ten million people of the United States pass through the hospital every year. The average hospital cost is estimated to be \$300, including the fees for the physician and nurse. This requires an average item of \$100 per year in the family budget.

It has been shown that the average per capita cost per day in four representative hospitals in one city in the Middle West was \$2.83 in 1913 and that in 1926 it had increased to \$6.65. The cost for service had increased 135 per cent., while the charges had increased on the average of 66 per cent. A study of several hospitals in Pennsylvania confirmed the facts first noted.

Other forms of public service such as public schools, health and sanitary departments have shown much greater comparative costs.

There is an offset in the increased cost of hospital service as shown by a shorter average stay in hospitals at the present time as compared with that recorded several years ago.

### BLOOD PRESSURE IN PERNICIOUS ANEMIA

Analysis made by Lerman and Means of the blood pressure in 500 cases of pernicious anemia showed only slight variation in the averages due to age or sex. Compared, however, with average figures for normal

persons, it is significantly lower. Hypotension is a more frequent condition in pernicious anemia than in tuberculosis. It appears that in pernicious anemia hypotension is associated with an almost complete disappearance of hypertension, whereas in tuberculous patients the existence of hypotension has little effect on the frequency of hypertension. The pulse pressures in pernicious anemia are higher than the corresponding normal ones by from 9 to 17 mm. of mercury. This increased pulse pressure is apparently a feature of an increased volume flow of blood of a compensatory nature, and finally results in hypertrophy of the cardiac musculature. With improvement in the blood picture, the pulse pressure tends to diminish.—*American Journal Medical Science*, June.

## Society Proceedings

### ADAMS COUNTY

A regular meeting of the Society was held at the Elks' Club September 10, 1928 and preceded by a dinner served at 8:15 P. M. Thirty-four members and five visitors were present.

In the absence of the President, Dr. J. F. Ross of Golden, vice president, presided. The meeting was a surprise, honoring one of the medical veterans of the society, Dr. E. B. Montgomery of Quincy, who has enjoyed a continuous practice since his graduation from Jefferson Medical College in 1878. The first speaker, Dr. L. H. A. Nickerson, told of "Dr. Montgomery as a Competitor Fifty Years ago." He was followed by Dr. Grant Irwin, who spoke on "Dr. Montgomery as an Ethical Physician." Dr. C. A. Wells then gave a very interesting discussion on "Dr. Montgomery's Discovery of Perpetual Youth." The principal speaker of the evening was Dr. Carl E. Black of Jacksonville, a former president of the Illinois State Medical Society, who spoke at length on "Dr. Montgomery and the Changes That Have Occurred in the Profession During the Past Fifty Years." At the conclusion of these addresses, Dr. J. F. Ross, on behalf of the Adams County Medical Society, presented Dr. Montgomery with a beautiful desk-lamp and penholder as an expression of appreciation for his loyalty to organized medicine during all these years.

The secretary made a motion that Dr. C. E. Black be given a rising vote of thanks for his cooperation in making this meeting a success. Seconded and carried. Dr. Center made a motion that all the minutes of the Council and the Society since the April meeting, previously published in the *Bulletin*, be approved as published. Seconded and carried. The secretary then spoke at length concerning the advisability of establishing a medical library, and referred to the space offered by the W. C. U. Building Management as stated in the June issue of the *Bulletin*. The proposition was to establish a library without increasing the present dues of the Society, and if the space offered was accepted, it should accomplish this as there would be no expense incurred for rent.

The various editorials regarding this matter which appeared in our *Bulletin* during the last few months, were referred to. In the discussion, the Library Committee made a report approving the establishment of a Medical Library and the acceptance of the space in the W. C. U. Building, provided the present dues of the Society would not be increased. This report was made by Dr. R. A. Harris, Chairman of the Committee. Dr. C. A. Wells made a motion that the entire proposition of a Medical Library be referred with power to the library committee. Dr. Knox made a substitute motion that this committee first make their report to the Society. The substitute motion was lost and the original motion of Dr. Wells carried. The secretary made a motion that the vice-president appoint Dr. C. A. Wells, a committee of one to secure voluntary contributions to help furnish the Medical Library. Seconded and carried. The secretary presented bills totaling \$27.15. These were ordered approved and a voucher drawn on the treasury to pay for same. A letter from Miss Jean McArthur, Secretary of the Educational Committee of the Illinois State Medical Society was read asking whether or not the Society approved of the establishment of an exhibit during the conference on public welfare to be held in Quincy, September 24-28. After considerable discussion, a motion was carried to lay the matter on the table. This was followed by further discussion, and motion was carried that our councilor be instructed to report in an adverse manner concerning this proposition at the councilors' meeting, to be held at Springfield on September 12.

Arrangements for the all-day October meeting were then discussed. A motion was carried that the Entertainment Committee be instructed to provide a meeting place for that meeting only and to spend no other funds other than the expenses of the speakers. This was followed by further discussion and it was the consensus of the Society that all the expense incurred by the secretary to secure the necessary publicity regarding the meeting be paid.

The meeting adjourned about 11:50 P. M.

HAROLD SWANBERG, M.D., *Secretary*.

#### ADAMS COUNTY

The Annual All-Day meeting of the society, was called to order at 9:30 A. M., October 15, 1928, at the Elk's by the president. The entire program was an All-Chicago one, put on by the faculty of Northwestern University Medical School. The morning session was devoted to a Symposium on Fractures, conducted by Drs. Wm. Robert Cubbins, Harry E. Mock, and Paul B. Magnuson. These men presented various phases of the fracture problem, all being demonstrated with lantern slides. At noon, all the physicians joined with the members of the Quincy Kiwanis, Rotary, Lions, and Exchange Clubs for luncheon. There were 244 served. Dr. Baker, president of the society presided as toast-

master. All of our Chicago guests were called upon for short toasts. The principal address was given by Dr. Irving S. Cutter, Dean of Northwestern University Medical School.

At 2:00 o'clock, the scientific session was resumed with Dr. Magnuson continuing his discussion on Fractures. He was followed by an interesting talk on "The Heart and the Electrocardiogram" by Dr. James G. Carr. Dr. Allen B. Kanavel was scheduled to be on the program, but was unable to attend because of illness. His remarkable motion picture film "Infections of the Hand" was shown and discussed by Dr. Magnuson. The meeting did not adjourn until 5:45 P. M. At 6:00 o'clock, all assembled at the Elk's dining room, where a splendid banquet was served. There were 150 at the tables, many physicians bringing their wives. Dr. C. A. Wells acted as toastmaster. Drs. Irving S. Cutter, C. E. Salzer of Hannibal, Missouri, H. B. Young of Burlington, Iowa, and Harold Swanberg of Quincy were called upon for short talks. Every one then adjointed to the Elk's Lodge Hall for a wonderful motion picture demonstration, conducted by Dr. Joseph B. DeLee. These films were on various obstetrical procedures and were truly remarkable, every one being enthusiastic in regard to their beauty and remarkable instruction value. There were seven reels of these films and they consumed nearly two hours time, Dr. DeLee explaining the films from time to time as they were shown. Following the film demonstration, there was a short discussion. The meeting adjourned at 9:30 P. M. The Secretary had extended an invitation to all physicians to attend a smoker at his residence and over fifty enjoyed this hospitality.

This day was easily the most successful of our three all-day fall medical meetings. In spite of the bad weather, approximately two hundred physicians registered.

HAROLD SWANBERG, M.D., *Secretary*.

#### COOK COUNTY

##### CHICAGO MEDICAL SOCIETY

*Regular Meeting, October 17, 1928*

Periodic Health Examinations—M. L. Harris, president-elect, American Medical Association.

Discussion—Gilbert Fitzpatrick, Olin West, Secretary A. M. A., Edward H. Ochsner, John M. Dodson.

*Regular Meeting, October 24, 1928*

1. The Role of Fungi in Occupational Skin Diseases—Cleveland J. White.

Discussion—Arthur W. Stillians, Erwin P. Zeisler.

2. Cardiac Irregularities, Their Cause, Recognition and Treatment—James G. Carr.

Discussion—Sidney Strauss, I. F. Volini.

#### DeKALB COUNTY

Oct. 25, 1928 the members of the DeKalb County Medical Society, their ladies and guests, assembled



for dinner at St. Mary's Hospital. Fifty were present of whom thirty-three were physicians.

Following the dinner the ladies adjourned to the reception room where the Ladies Auxiliary of the De Kalb County Medical Society was organized. The following officers were elected: president, Mrs. S. L. Anderson, De Kalb; vice-presidents, Mrs. Ben D. Mosher, Somonauk, Mrs. Dean F. Brooke, Genoa, Mrs. Robert G. Dakin, Sandwich; president-elect, Dr. Louise L. Culver, Sandwich; secretary and treasurer, Mrs. Rodney A. Wright, De Kalb; membership chairman, Mrs. E. W. Telford, De Kalb.

The physicians held their program in the basement dining hall.

The physical examination of high school students was discussed.

Dr. Floyd G. Tindall of Rockford read a very interesting paper on obstetrics. He spoke of the great advances in this science, dwelling especially on rectal analgesia. He states that painless childbirth is a misnomer, but that a great deal can be done to lessen this ordeal. A lively discussion followed the reading of Dr. Tindall's paper.

Dr. S. L. Anderson of De Kalb read a paper on the "Modern Treatment of Pernicious Anemia." Dr. Anderson presented one of his patients who was erroneously pronounced a hopeless case of cancer three years ago. Three blood transfusions gave temporary relief, but he returned to health and strength on a liver and liver extract diet. Dr. W. E. Kittler of Rochelle reported similar results in one of his cases.

A vote of thanks was given Father Solon and St. Mary's Hospital for the splendid banquet.

CLIFFORD E. SMITH,

Secretary, DeKalb County Medical Society.

### MACOUPIN COUNTY

The Macoupin County Medical Society met in the Elks Club rooms, Carlinville, Illinois, Tuesday, September 25, 1928, and was called to order by President A. C. Goff of Staunton; 21 members and guests being present.

On motion the society adjourned to meet at the Ariston restaurant where an excellent banquet was served and the meeting continued.

Moved and seconded that the Committee appointed May 26, 1925 to investigate the Glacken Tuberculosis Law be discharged. Carried.

Dr. T. D. Doan was appointed toastmaster.

Senator A. S. Cuthbertson, Bunker Hill; Mr. James McWeeny, Gillespie; Judge T. A. Snell, Carlinville; Hon. Robert Whiteley, Carlinville; Dr. H. W. Smith, Roodhouse; Judge A. A. Isaacs, Gillespie; Hon. Victor Hemphill, Carlinville; were called upon and responded in cleverly given brief addresses.

Dr. J. Curtis Lyter of St. Louis gave an interesting address on "The Medical Aspect of Thyrotoxicosis."

Dr. J. R. Neal of Springfield gave an interesting

address on "The Physician's Responsibility to the Public."

The Censors reported Girard as the place for the next meeting of the society. Moved and seconded that we thank Dr. J. Curtis Lyter for his excellent address on "The Medical Aspect of Thyrotoxicosis," Dr. J. R. Neal for his excellent address on "The Physician's Responsibility to the Public," Senator A. S. Cuthbertson, Mr. James McWeeny, Judge T. A. Snell, Hon. Robert Whiteley, Dr. H. W. Smith, Judge A. A. Isaacs, and Hon. Victor Hemphill, for their presence and pleasing remarks, The Elks' Club for the use of their elegant rooms, the physicians of Carlinville for their royal welcome and all others who have helped to make this meeting a success. Carried.

On motion the Society adjourned to meet at Girard in November.

### TRI-COUNTY MEDICAL SOCIETY

The Tri-County Medical Society composed of Warren, Knox and Henry County Medical Societies, held the regular annual meeting at the Elk's Club, Monmouth, on Thursday, October 4, 1928. Dr. H. S. Zimmerman, president of the Warren County Medical Society, presided at the meeting. Dr. Malcolm L. Harris, president-elect of the American Medical Association, Chicago, was the first speaker and talked on "Periodic Health Examinations." Dr. Harris gave an excellent talk on this subject, discussing it from various angles and different from the usual presentations of the subject. This talk was discussed by a considerable number of those present, showing the interest the profession has in Periodic Health Examinations.

Dr. Wm. T. Coughlin, Professor of Surgery, St. Louis University School of Medicine, St. Louis, gave an illustrated talk on "Head Injuries." The subject especially pertaining to fractures of the skull, was thoroughly covered by Dr. Coughlin, and many interesting slides were shown to increase the interest of the talk. Dr. M. L. Harris opened the discussion, this being one of his favorite subjects, and he showed some very appropriate roentgenograms of cases of skull fracture. Several others including Col. Chas. D. Center of Quincy, also discussed the subject. The third speaker was Dr. J. P. Simonds, first vice-president of the Illinois State Medical Society, and professor of pathology, Northwestern University Medical School, Chicago, who held a "Clinico-Pathologic Conference," which was somewhat out of the ordinary in interesting society presentations. Dr. Simonds had mimeographed copies of case histories, clinical findings, symptoms, and treatment of a number of unusual cases, and presented pathologic specimens from each case with a complete pathologic diagnosis, these copies being passed out to those in attendance.

Dinner was served at 6:30 P. M. by caterer Hawcock, and a suitable dinner program was arranged. Dr. F. C. Winters of Monmouth acted as toast-

master. Hon. L. E. Murphy, mayor of Monmouth, gave a short address of welcome which was interesting, and consisting principally of a Lawyer's tribute to the Medical profession.

Miss Jean McArthur, Secretary of the Educational Committee, Illinois State Medical Society, was called on for a short talk on the work her committee was doing. In her usual interesting, and unassuming manner, Miss McArthur convinced the most skeptical that the \$1.73 from the annual dues of each member of the Society which is used for Educational Work is money well spent.

The meeting was attended by approximately 140 physicians of Western Illinois and Eastern Iowa, some of the visitors coming nearly 150 miles. In all, about twenty counties were represented. The Tri-County Medical Society was organized ten years ago, and meets annually in Monmouth, Galesburg and Kewanee by rotation. The meeting next year will be in Kewanee with the Henry County Medical Society acting as the host Society.

CHAS. P. BLAIR, M.D., *Secretary*,  
Warren County Medical Society.

### Marriages

LEOPOLD BENNO BERNHEIMER, to Miss Margaret Fuller Austrian, both of Chicago, September 8.

ARTHUR THOMAS LEIPOLD, Moline, Ill., to Miss Lyla Mae Nelson of Sherrard, in Chicago, October 1.

JAMES C. McADAMS, Kansas, Ill., to Miss Elizabeth Heiges of York, Pa., recently.

DOUGLAS SHEPPERD, Peoria, Ill., to Miss Gladys Byram of Memphis, Tenn., August 27.

### Personals

Dr. Jonas C. Lyter, St. Louis, addressed the Macoupin County Medical Society, Carlinville, September 25, on "Medical Aspects of Thyrotoxicosis."

Dr. Eric A. Fennel, a graduate of the University of Cincinnati College of Medicine and the army medical school, has been appointed an associate professor in the University of Illinois College of Medicine.

Dr. Anton J. Carlson, professor of physiology, University of Chicago, will give the first Harrington lectures at the University of Buffalo, November 15-16, on "Function of the Stomach in Health and Disease."

Dr. Charles D. Humes, Indianapolis, addressed the St. Clair County Medical Society, East St. Louis, October 4, on the parkinsonian residue

of encephalitis, illustrated with motion pictures and patients.

Associates and friends of Dr. Paul W. Wiperman, superintendent of the Decatur-Macon County Hospital, gave a dinner in his honor at Decatur, September 19, and presented him with a set of golf clubs previous to his departure for New Orleans to become superintendent of the Touro Infirmary.

Dr. G. Henry Mundt addressed the Kankakee County Medical Society, Kankakee, Illinois, October 8, 1928, on "The Social Aspects of the Practice of Medicine."

On October 23, 1928, Dr. G. Henry Mundt talked before the Austin Flint-Cedar Valley Medical Society (comprising the northern counties of Iowa), Iowa Falls, Iowa, on "The Social Aspects of the Practice of Medicine."

Dr. Meyer Solomon of Chicago gave an address before the Parent-Teachers association in Quincy, October 9. The medical profession entertained him at a dinner at the Elks Club, after which he discussed the question of "Anxiety Neurosis, Its Nature, Diagnosis and Management."

### News Notes

—Among others, Dr. Frank Deneen, Bloomington, addressed the Schuyler County Medical Society, Rushville, August 23, on "The Goiter Heart," and Dr. George T. Palmer, Springfield, on "Early Diagnosis of Pulmonary Tuberculosis."

—The Chicago Gynecological Society was addressed by Dr. Arthur J. Cramp, director, Bureau of Investigation, American Medical Association, at the Medical and Dental Arts Club, October 19, on "Quackery in Gynecology," and by Judge Henry Horner of the probate court.

—It is reported that a woman has been calling on north side physicians, recently, giving symptoms of gallstone colic in order to obtain morphin and paying by check for more than the amount charged. The checks have been found to be worthless.

—At the October 11 meeting of the Chicago Roentgen Society, Virginia Hotel, Dr. Bernard H. Nichols, Cleveland, discussed "Roentgenologic Examination to Determine Causes of Pain in the Upper Right Abdominal Quadrant," and Dr. Benjamin H. Orndoff, "Impressions from the International Congress."



—At a recent meeting of the Du Page County Medical Society, Elmhurst, Dr. James Hubert Skiles, Oak Park, spoke on "Antepartum and Postpartum Hemorrhage," and Dr. Walter L. Migely, Naperville, on "Treatment of Bronchial Asthma With Ephedrine."

—The Kankakee Medical Society opened new club rooms on the second floor of the Arcade Building, September 27. Physicians throughout the county were invited to the opening. The quarters are commodious and artistically decorated. There is an assembly room with equipment for illustrated lectures, a kitchenette, a reading room and a library. The Kankakee Medical Society has been organized about ten years. The president this year is Dr. George E. Irwin.

—The recently dedicated addition to the Swedish Covenant Hospital, Chicago, adds 200 beds to its capacity, with greatly increased facilities, at a cost of \$450,000.

—The Pasteur statue near the Field Museum in Grant Park, Chicago, was unveiled, October 27, by Mlle. Reine Claudel, daughter of Paul Claudel, French ambassador to the United States. Dr. Frank Billings, chairman of the memorial committee, presided at the dedication. At the banquet at the Drake Hotel in honor of the ambassador in the evening, Vice-President Dawes was toastmaster and addresses were given by the ambassador, by Dr. W. A. Pusey, Dr. Ludvig Hektoen, Professor Gordon J. Laing and others.

—The program of Jackson Park Branch meeting, October 18, was given by the department of medicine, University of Chicago. Members taking part were Drs. S. W. Becker, Clark Finnerud, Louis Leiter, Chas. L. Mix, Franklin McLean, and W. W. Hamburger.

—The Chicago Urological Society, October 25, held urological clinics and demonstrations at Cook County Hospital in the morning. In the evening Dr. F. E. B. Foley of St. Paul gave an address on "Cystoscopic Excision of the Prostate," Dr. I. J. Shapiro discussed "Congenital Polycystic Kidney," and Dr. V. J. O'Connor, "Uterocele."

—At the meeting of the council of the Chicago Medical Society, Dr. Fred L. Glen of the advisory committee to Dr. Kegell reported that Dr. Kegell, health commissioner, desired to put on

an intensive campaign to immunize all children by giving them toxin-antitoxin. The school children will be given slips requesting that they go to their family physician to have this administered. The hope is expressed that the family physicians will respond so that it will not be necessary for the school doctors to do this work.

—North Side Branch Chicago Medical Society features the following popular lectures given at Academy of Sciences in Lincoln Park: October 28, "More Hopeful Features of Heart Disease," Dr. James B. Herrick; November 11, "Plastic Surgery," F. B. Moorehead; November 25, "What the Medical Profession Is Doing for the Public," M. L. Harris; December 9, "New Knowledge of Cancer," J. P. Simonds.

—South Side Branch Chicago Medical Society program for November 9 featured "The Diphtheria Situation in Chicago," by Dr. Arnold H. Kegell; "Types and Symptoms of Diphtheria," Robert A. Letourneau; "Complications and Treatment of Diphtheria," Archibald L. Hoyne; "Technique of Administration of Toxin-Antitoxin," Arthur G. Bosler.

—The Chicago Gynecological Society held its Fifty-first Annual Dinner in honor of Dr. Rudolph Holmes and Dr. Henry F. Lewis at the Chicago Medical and Dental Arts Club on Friday, October 19, 1928.

Officers elected for the ensuing year: Wm. M. Thompson, president; Carl Henry Davis, first vice-president; O. S. Pavlik, second vice-president; Sydney S. Schochet, secretary; Chas. B. Reed, treasurer; Mark T. Goldstine, pathologist; Carey Culbertson, editor.

—The Radiological Society of North America wishes to announce its annual meeting to be held at the Drake Hotel, Chicago, Illinois, December 3 to 7, inclusive. All physicians are cordially invited. Something of interest has been prepared for physicians in every specialty. Make your reservations early through F. J. Ronayne, West Suburban Hospital, Chicago, Illinois.

—The project of a medical university center, started eighteen years ago by such well known figures as Dr. Samuel Lambert, Dr. Joseph A. Blake and Dr. Theodore Janeway, is now nearing completion. The Medical Center, New York, was dedicated to the service of humanity and the progress of science on October 12 before

many thousands of invited guests. During the spring and summer there have been a succession of removals and openings at the Medical Center. This ceremony marked the beginning of the united effort as a teaching and research combination. Following the dedicatory services inspection of the College of Physicians and Surgeons, the Vanderbilt Clinic and the School of Dental and Oral Surgery was made. Visitors were not admitted to the Babies Hospital, the Neurological Institute or the New York State Psychiatric Institute and Hospital as they are still in the hands of the builder. January 1 is the tentative date made for the occupancy of these buildings.

A Councillors' meeting of the Physicians and Surgeons of the Eighth District was held at the U. S. Grant Hotel in Mattoon, Illinois, Thursday afternoon, October 25, after a clinic by the local men at the Mattoon hospital in the morning. Dr. Harold M. Camp, secretary of the State Society, and Dr. Carl Hedblom, Professor of Surgery of the University of Illinois Medical School, were the speakers. There were fifty-three men present and the talks by Drs. Camp and Hedblom were very instructive and much appreciated. Dr. Camp speaking on the practical workings of the Illinois State Medical Society, and Dr. Hedblom on the diagnosis of Acute Abdominal conditions. It was one of the most valuable meetings every held in the district.

## Deaths

ABRAM WALTER ASKINS, Findlay, Ill.; Barnes Medical College, St. Louis, 1899; member of the Illinois State Medical Society; aged 56 was found dead in bed, September 16, of heart disease.

R. M. CHARLES BALL, Monmouth, Ill.; Missouri Medical College, St. Louis, 1879; aged 77; died, September 14, of intestinal obstruction and heart disease.

OSCAR ELLIS CHASE, Chicago; University Michigan Medical School, Ann Arbor, 1899; member of the Central States Pediatric Society; formerly clinical instructor in pediatrics, Rush Medical College; aged 57; died, September 16, of gangrenous appendicitis.

JOHN WERNER CRENSHAW, Chicago; University of Virginia Department of Medicine, Charlottesville, 1875; aged 80; died, September 8, at Cloverport, Ky., of heart disease.

GROVER JOHN DIESEL, Millstadt, Ill.; St. Louis College of Physicians and Surgeons, 1906; member of the Illinois State Medical Society; served during the World War; aged 45; died, September 4, of cerebral hemorrhage.

JOHN JAY ENCKE, Aurora Ill.; University of Michigan Medical School Ann Arbor 1883; aged 78; died February 6 of cerebral hemorrhage.

GEORGE SYLVANUS GOULD, Lostant, Ill.; Rush Medical College, Chicago, 1896; aged 60; died, September 21, at St. Mary's Hospital, La Salle, of heart disease.

JOHN HAMILTON, Newton, Ill.; Barnes Medical College, St. Louis, 1901; member of the Illinois State Medical Society; aged 62; died, September 24, at the Olney (Ill.) Sanatorium, following an operation for acute appendicitis.

JACOB SNYDER KAUFFMAN, Chicago; Rush Medical College, Chicago, 1875; aged 74; died, August 7, of angina pectoris.

JUDSON H. LONG, Moline, Ill.; Marion-Sims College of Medicine, St. Louis, 1896; member of the Illinois State Medical Society; aged 58; on the staff of the Moline City Hospital, where he died, September 26, following an operation for gastric ulcer.

ROBERT CHRISTIAN POOS, Okawville, Ill.; American Medical College, St. Louis, 1884; member of the Illinois State Medical Society; aged 71; died, September 18, of acute myocarditis.

ALBERT WILKIN SLAUGHTER, Paris, Ill.; Louisville (Ky.) Medical College, 1904; member of the Illinois State Medical Society; served during the World War; aged 48; died, September 25, of hemorrhage due to gastric ulcer.

LOYAL TYLER SPRAGUE, Peoria, Ill.; Medical Department of the University of the City of New York, 1876; also a druggist; aged 75; died, September 10, of pneumonia.

WILLIAM GEORGE UNLAND, Berwyn, Ill.; Hahnemann Medical College and Hospital, Chicago, 1871; aged 82; died, August 6, of ascending paralysis.

FRED C. WALKER, Peoria, Ill.; Chicago College of Medicine and Surgery, 1910; aged 48; was killed, September 11, at Plymouth, Ind., when the automobile in which he was driving was struck by a train.

GEORGE J. WILDER, Chicago; University of Michigan Medical School, Ann Arbor, 1877; aged 80; died, September 11, of carcinoma of the prostate and uremia.

EDWARD CLARK WINANS, Chicago; Medical Department of the University of Illinois, Chicago, 1899; aged 58; on the staff of the Illinois Central Hospital, where he died, August 8, of myocarditis and nephritis.

LATHY L. YERKES, Alton, Ill.; Medical Department of Washington University, St. Louis, 1904; member of the Illinois State Medical Society; formerly on the staff of St. Joseph's Hospital; aged 51; died, September 15.

PHILO BIERCE CONANT, Roseville, Ill.; College of Physicians and Surgeons, University of Illinois, 1902; member of the Illinois State Medical Society, past president of the Warren County Medical Society, president of the high school board; aged 51; died, September 26, at his home of chronic interstitial nephritis.





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## CONTENTS OF BOOKLET

Advantages .....	5
Description .....	6
Preparation .....	7

### INDICATIONS AND TREATMENT

Alimentary Intoxication .....	8
(Cholera Infantum, Ileocolitis)	
Celiac Disease .....	12
Colic in Breast-Fed Infants .....	10
Decomposition .....	10
(Marasmus, Atrophy)	
Diarrhoea in Breast Fed Infants ....	9
Premature and New-Born Infants ....	11
Bibliography .....	16

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## CONTENTS

Editorials (For Titles See Extended Table of Contents) 401

### ORIGINAL ARTICLES

Educational Committee Has Gone Far. *Charles J. Whalen, M. D., Chicago* 413

The Rhinological Problem in Asthma. *Burton Haseltine, M. D., Chicago* 417

Tennessee Plan for Tuberculosis Control. *Eugene L. Bishop, M. D., Nashville, Tenn.* 423

Spinal Cord Education. *Martin H. Fischer, M. D., Cincinnati, Ohio* 428

Resection of Styloid Process. *L. P. Piper, M. D., Chicago* 432

Schick Test and Duration of Immunity. *C. A. Earle, M. D., Des Plaines, Ill.* 433

Extrinsic Ureteral Strictures. *C. Otis Ritch, M. D., Chicago* 435

Treatment of Simple Fractures. *T. Arthur Johnson, M. D., Rockford, Ill.* 439

Diverticula of the Stomach. *P. B. Goodwin, M. D., Peoria, Ill.* 444

Carcinoma of the Esophagus. *M. H. Streicher, M. D., Chicago* 449

Prevention and Treatment of Neo-Natal Morbidity and Mortality. *Joseph Brennemann, M. D., Chicago* 452

Iodine Therapy in Pulmonary Tuberculosis. *S. Loumos, M. D., Chicago* 461

Medical Economics from Standpoint of Physician's Wife. *Florence Aird, Carterville, Ill.* 462

Continued on Page 12

SEVENTY-NINTH ANNUAL MEETING, PEORIA, MAY 21, 22, 23, 1929

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## Editorial

### MERRY CHRISTMAS

In wishing the members of the Illinois State Medical Society a "Merry Christmas" the finest possible Yuletide gift that the editor might send to his fellow-physicians would be the hope that the day in every angle shall be filled with the spirit of "Peace on Earth, Good Will to Men."

### GETTING LITTLE THANKS OR PAY WHEN THEY SUCCEED, RISKING DEFAMATION OR EVEN DEATH WHEN THEY FAIL

### A LAYMAN'S VIEW OF THE HAZARDS OF MEDICAL PRACTICE

Arthur Brisbane, whose articles appear in copyright by the Star Company, made the following comment on the tragedy of a doctor murdered in line of duty. We quote:

"Recently a doctor of middle age was murdered because he refused to answer a late night call. The woman calling him had died.

"Yesterday, in Brooklyn, a similar shocking tragedy occurred. A doctor called by the family of a sick child was delayed by some cause unknown. The child died. The doctor, arriving twenty minutes after the death, was murdered by the inmates of the household, his throat cut, in revenge for the child's death.

"Medicine is a profession not to be envied or entered upon lightly. Four hundred years before Christ, Hippocrates, first real doctor, wrote the oath that begins:

*"I swear by Apollo, the physician, and Asclepius and Hygeia and Panac, invoking all the gods and goddesses to be my witness, that I will fulfill this oath and this written covenant to the best of my power and of my judgment.*

"When he worded that oath, binding those that swore to the most severe and loyal public service, Hippocrates realized the danger of his

profession. He said: 'I hold it to be physicianly to abstain from treating those who are overwhelmed by disease.' Meaning those absolutely incurable.

"In ancient days the doctor's work was considered by the ignorant a work of magic, and 'failure may cause resentment and murder.'

"That Brooklyn tragedy proves the wisdom of Hippocrates' ruling. Getting little thanks or pay when they succeed, risking defamation or even death when they fail, you need not envy physicians their work."

#### NOTICE—SURGICAL SECTION PROGRAM DOCTORS DESIRING TO READ PAPERS BEFORE SURGICAL SECTION

Members desiring to present papers before the Surgical Section of Illinois State Medical Society meeting at Peoria, Illinois, May 21, 22 and 23, 1929, kindly communicate with the Chairman of the Section, Dr. Earl D. Wise, Champaign, Illinois, or the undersigned.

The title and synopsis of the subject must be in the hands of the Secretary not later than January 15, 1929.

FRANK L. BROWN, M. D.

Secretary Section on Surgery, 4034 Madison St., Chicago, Ill.

#### A LITTLE REMINDER AS TO THE ESSENTIAL FEATURES OF STATE MEDICINE

Just to remind you, lest you forget as to the details that State Medicine carries in its knapsack for the future of medicine the essential features of this menace are:

1. Complete control of the medical organization by the Federal Government; every man in the organization to be on a salary basis.
2. Control of all medical schools by a Federal Medical Education Bureau. Medical students to receive their tuition and maintenance free; medical research to be controlled by the Medical Research Bureau.
3. Government control of hospitals and greater emphasis on the hospital training of students.
4. Abolish the private office, establish clinical group of specialists with complete laboratory equipment.
5. Make possible a uniform distribution of

work so that nobody will be worked to death and nobody will die of chronic inactivity.

6. Every person to receive adequate medical attention, regardless of his financial means.—*American Medicine, Jan., 1922.*

#### STATE MEDICINE DEFINED WHAT STATE MEDICINE IS, RATHER THAN WHAT IT PURPORTS TO BE. STATE MEDICINE IS MEDICINE POLITICIZED AND MEDICINE POLITICALIZED

So inherent with men—especially with citizens of a democracy—is the subconscious association of the synonymy of the terms "state" and "justice" that an erroneous idea exists in many minds as to the exact status of numerous activities involving both the state and its residents, when with these activities is allied, as a distinguished descriptive, the term, "state."

Of this kidney is the term "state medicine." To the lay mind, so great is the honor, awe, almost the reverence even in these days of lackadaisical patriotism with which the term "state" is held that not only the skin-deep but even the sub-cutaneous impression of the title "state medicine" is that its functions and nature must be of something intensely keen and exceptionally fine in its application to the needs and goods of the citizenry. Considering what "state medicine" is, rather than what it purports to be, and what it does and will do, rather than what it assumes and what it promises, the term "state medicine" is most unfortunate. Tersely it is another case of plum pudding,—a famous comfit of many ingredients, but not one of these in reality a plum.

In reality state medicine embodies the doctrine of Louis Quatorze—"L'etat, c'est moi"—"I am the state." For resolved into natural elementals, state medicine is really more state than medicine. Perhaps not at the outset, any more than Louis XIV and his arrogant assumption achieved destruction of the Bourbons. But the phrase was pregnant with forebodings. Two more Louis and the line was ended. For unfortunate Louis Seize, himself and all the other Bourbons, had fallen beneath the heel of a state gone mad, of a state that was so ungoverned, so unlimited by regard of rights of the individual that having destroyed individuality in the



mass it had nothing to feed upon except itself and in a very brief span had become again an empire instead of a democracy.

State medicine, as insidiously as the heralds of the states-general of Robespierre, is an invasion of the rights both of the individual and of the physician since it can best be defined as "the assumption by the commonwealth of those duties in connection with the prevention, cure, or alleviation of disease, such as are commonly performed by private individuals, who have been duly qualified and registered as physicians."

The American Medical Association in declaring opposition to "state medicine" did so because of the "ultimate harm that would come thereby to the public weal through such form of medical practice."

During the meeting of the A. M. A. at St. Louis in 1922, official recognition was made as to the status of "state medicine." Evolved from various elucidations of this term as set forth by Illinois, New York, District of Columbia, Ohio, and Maryland the A. M. A. accepted this definition of "state medicine."

"State medicine is hereby defined for the purpose of this resolution to be any form of medical treatment, provided, conducted, controlled or subsidized by the federal or any state government or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable diseases, the treatment of mental diseases, the treatment of the indigent sick and such other service as may be approved by and administered under the direction of or by a local county medical society, and are not disapproved of by the state medical society of which it is a component part."

This resolution still has its limitations; however, it is sufficiently clear for the rank and file to understand what has grown to be known as state medicine.

It was state operation and state control of medicine that ruined medical practice in Germany and that has given the people of that country the worst medical service administered in any civilized country in the world.

Boiled down, state medicine should be understood, barring prophylactic measures and medicine, to be *medicine politicized* or *politicalized*. Lay dictation of medicine through endowed foundations or lay institutions comes under the

head of *medicine politicized* with the same clarity of discrimination as insists that medical practice shall be considered *medicine politicalized* when the practice of medicine is handicapped, hampered, controlled or interfered with by political organizations supported by taxation, or individuals thus empowered or when the science of medicine is directly thus practiced by other than duly registered physicians acting as individuals and not as either a body corporate or any integral part thereof, exempted hereto, of course, that service provided for the Army, the Navy, the prophylactic Public Health service, federal, state and subdividedly local, and similar care of the indigent, dependent and delinquent, such as the insane, the criminal and the destitute.

---

#### APPLICATION OF PAY CLINIC FOR CHICAGO

In Chicago the pay clinic is unnecessary and inexcusable. Ultimately, the existence and development of such institutions will prove disastrous to medical practice, both from the standpoint of the profession itself and of community welfare.

For the pay clinic, result of endowed institutions, forces the medical profession into what is literally beggarly competition with corporations or foundations that through maladroitness philanthropy have audaciously entered the practice of medicine. How the systematized world of finance and trade would rock as if the bowels of the earth belched forth, were some public benefactor to present to the citizenry rich, poor and middle class alike, either groceries, clothing, fuel or shelter at from half the cost of production down the scale to an entirely gratis offering? Russia has been having her own sad experience with distribution below the cost of production. Economics must enter into the constitution of so daily an applied science as medicine, with the same vigor as that with which economics enters the marts of trade and the aisles of commerce.

That so keen yet just-minded a citizen and business man as Julius Rosenwald, so sane and prophetic of vision as to unhamper his mighty trust funds by any board of trustees in perpetuity, and even to limit the life of the trust fund itself, should be ranked among the men

who hang the yoke of the paid clinic about the medical men of any community of any nation is a matter for grief indeed. Mr. Rosenwald's charities have always been of such breadth of vision that it seems sad that he should be a party to such a proceeding as will undoubtedly tend eventually to lower the standard of medical practice in this country, as it has been lowered elsewhere. Next to determining his religion one of the fundamentals left a man, no matter how poor he is, should be the right of determination of his own doctor. This bit of individualism will be denied him in the not so very far away course of things when competition by individual men with the paid clinics of endowed foundations has made the medical profession a pawn in the hands of laymen and their coupons.

Julius Rosenwald has one of the kindest hearts in the world and one of the shrewdest heads, but in a great many instances his head does not rule his heart. Certainly if this were so he would not be a party to such a public and professional injustice against any such group of men as the doctors upon whose shoulders rests the health of the nation, as to oil the lever that will place those men in such a competitive position as would have confronted Mr. Rosenwald in his days of struggle if other men in his line of business sold to Chicago men of means for one dollar shoes that it cost three dollars to produce f. o. b. the factory. That is exactly what the endowed foundation and the pay clinic do when these institutions enter into the practice of medicine. At present there is no shortage of excellent physicians but take the honey of individual initiative out of the medical profession and the results in the next decade will be such that not even progressive prophylaxis nor sage legislation will atone for the vitiated human element necessary to the transaction, for the human element in caring for the sick, is and will always be, the wise and scientific physician.

The medical profession has stood amazed at the aplomb with which the Cornell Pay Clinic congratulates itself on being able to practice medicine better than the doctors themselves do and the pride this clinic feels in being able successfully to "compete with the doctors where the majority of the population is concerned." The Cornell Pay Clinic refused charity patients, fearing the clinic would be "swamped by non-

paying patients unless service is limited to those who can pay fees." Which puts the clinic into the practice of medicine for fees as are private physicians. By paying salaries instead of fees to the physicians the clinic reduces the doctor to the status of a clerk instead of a resourceful, scientific business and professional man. The injustice of this may be seen in the report made a few years ago that the salaries were on a basis of about a dollar a visit, though some of these visits were for thorough physical examinations.

The private physician considers it his duty and privilege to render a great deal of free service and many clinics, even the Mayo and Ford, do some free work.

What Mr. Rosenwald intends to do is set forth plainly in the *Chicago Daily News* of Nov. 15, 1928.

This article says:

"The Julius Rosenwald Fund will extend its activities into a virtually new field, support of medical services to people of moderate means, Edwin R. Embree, president of the fund, announced today.

"Hitherto the fund has been chiefly concerned with building Negro rural schools. Mr. Embree's tidings accompanied announcement of several new appointments to staff and trustees.

"According to Mr. Embree's announcement, 'It is common knowledge that people of moderate means find it harder to get good modern facilities for diagnosis and treatment of illness than do the poor and indigent through charity services and free hospitals.'

#### WILL HELP PAY CLINICS

"The fund will study clinics, including pay clinics, and hospitals, and from time to time will extend financial aid to them.

"Dr. Michael M. Davis of New York, an authority on hospitals and clinics, has been appointed to the executive staff of the fund as an executive director for medical services. He will take up his duties at the offices of the fund the first of the year. He will direct the program of the fund, in co-operation with the medical profession, to improve the organized facilities for medical service to the average man.

"While details of the program will be determined after Dr. Davis' arrival, it is understood that the clinics aided will probably serve both



whites and Negroes. It is expected the fund will interest itself in hospitals for Negroes, for which a need has been noted by the American Medical Association.

#### POINTS TO DAVIS' EXPERIENCE

"Dr. Davis' book on "Clinics, Hospitals and Pay Centers" is the standard work in that field," said Mr. Embree. "He has been engaged in studies of hospital problems for the Rockefeller Foundation and in private work as consultant to various organizations.

"Though there has been work on a purely charitable basis to extend medical facilities and considerable work along lines of public sanitation, very little has been done to make it more easy for the average man to pay for medical services. Hospitals have had out-patient work, and private-patient clinics have been started by the University of Chicago and pay clinics by Cornell university.

"Other appointments and elections besides the choice of Dr. Davis were as follows: Dr. Franklin C. McLean, chief of the medical clinics of the University of Chicago, elected a trustee; William B. Harrell, now assistant auditor of the University of Chicago, appointed secretary and comptroller; Clark Foreman, appointed associate field agent for southern schools and colleges.

"Mr. Harrell was born and educated in the south, and has been a student, an instructor and a member of the business office at the University of North Carolina. Clark Foreman, a graduate of the University of Georgia, is now with the Phelps Stokes Fund of New York."

Mr. Rosenwald in his attempt to help his fellow citizens would seem to have done about the worst he possibly could for them, and this in itself is lamentable, for in all sincerity it must be repeated that he is a sincere and genuinely charitable man with fine and inspirational ideals.

In the same issue as that of the *Daily News* announcing the new pay clinics appears editorial comment. The final paragraph of this editorial, while calculated to evoke a merry "ha-ha" from the physician who knows anything about medical economics in addition to what he gets out of his day's work and his day's bank account, reveals only too plainly the mistaken idea of many of the kindly disposed laity towards the real

state of medical economics. For the evil to be combatted the pay clinic is about as useful—and in a short space of time will so be proven—as an aspirin tablet in tabes pains. The quotation is well worth perusal:

#### THE COST OF MEDICAL CARE

"Recognizing that the cost of medical and hospital service is becoming all but prohibitive to persons of moderate means—that is, to the great majority of the population—the directors of the Julius Rosenwald Fund propose to extend financial assistance to efficient, well-organized pay clinics and hospitals that have adopted the policy of charging their patients distinctly moderate prices. This wisely conceived effort to meet a great and pressing need should lead to far-reaching benefits.

"The fund will not establish competitive institutions of its own, but will help to support those which give good, scientific service not too costly to be out of the reach of self-respecting persons of small incomes. There are such institutions, and as yet they are not self-supporting.

"The great value of this extension of the field of the Julius Rosenwald Fund will be generally recognized. The average physician is willing to give of his time and skill freely to the poor, but he is opposed to clinics that profess to charge and yet fail to charge the full equivalent of the value of the service rendered. Such clinics are necessary, however, and are beginning to appear in many places, despite shortsighted criticism. They need and deserve such aid as the Julius Rosenwald Fund offers them. The example thus set well might be followed by other philanthropic foundations.

"In due time the medical profession itself, by co-operation, group practice and modern methods of organization, may put itself in a position to reduce the high cost of medicine, surgery and hospitalization. That goal is definitely favored by leaders of the profession, but it still seems rather distant."

So also are numerous quotations from the report of the Cornell Pay Clinic made in 1925 and covering a period of three years. Among these quotations and among the comments thereon that doctors have made are these:

"Cornell claims a large volume of business, with an average of 18,000 new patients a year. The report shows 118,711 visits during 1922,

110,235 during 1923, and 114,705 for 1924. These, according to the report, represent about 90 per cent of those who apply for service; *the other 10 per cent are refused because of inability to pay the fees.* There is another 10 per cent who, although of doubtful financial standing, are accepted.

"Although only in its fourth year of business, this clinic has grown financially from a deficit of \$46,000 in 1921 to a self-sustaining basis in 1924, and the indications are for a substantial profit for 1925, unless some of the usual business methods of preventing such showings of profits are utilized. This is an encouraging showing, from a commercial standpoint. It is said to have taken Mr. Gary longer than this to make United States Steel a paying proposition.

"The report gives the average fees paid by patients as \$2.24 a visit. As an *average*, such fees ought to make the practice of medicine very profitable, particularly when it is remembered that they render no free service. Less than 20 per cent of the doctors of California—and we suspect of New York as well—*average* as much as \$2.24 a visit in the practice of their profession. But, of course, they all do free work, and most of them a large amount of it, which naturally pulls *their* average down.

"The chances for referred work from a large clinic that does no free work and claims the majority of citizens of New York as its legitimate customers ought to be exceedingly great.

"The House of Delegates of the American Medical Association has twice disapproved as unnecessary and inadvisable, movements which appear to offer only part of what this clinic offers under similar principles and tending in the same obvious direction.

"Are department store methods and corporation practice of medicine to replace the personal service of the doctor to the patient who chooses him? We wonder. If the policies and practices of the Cornell Clinic are sound, then many other varieties of big business medicine are sound and in the best interests of the public health. None of these activities can be considered to be local. Attempts to start Cornell Clinics have already been seen in California and presumably elsewhere. If the Cornell Clinic is the best method of caring for thousands of pay patients of New York City annually, then the principle should be extended to all classes of people throughout

the country. If it is unsound, unwholesome and unwise, then physicians should say so now, and say so in no unmistakable terms."

## ILLINOIS FAIR PROTECTION AGAINST CULTISM WOULD BE A WELCOME GIFT TO PENNSYLVANIA

### LESSON MAY BE GLEANED FROM PENNSYLVANIA SITUATION AS TO NECESSITY FOR KEEPING ALL DEFENSES UP

Illinois is fairly protected through legislation against the ravages of cultism, though how long this protection shall last before the bounty of the cultists proceeds to poke holes in it is altogether another question.

Natural demands of the people of the United States—some 120,000,000 or more upon the medical profession—are cared for by some 160,000 or more physicians.

Of this group a certain percentage typify the "grand old-fashioned doctor," the straightforward genuine man, who has made of such intimate tenderness the medical profession, as well as the efficient specialist. The percentage varies throughout the states, just as does the measure of protection to the practice of medicine and consequently to the public welfare. This protection, of course, hangs upon the laws affecting the practice of medicine by physicians and the tampering with the public health by cults. Illinois with a population of 7,500,000 has about 11,000 physicians, and what is known throughout the land as one of the best among the different bodies of organized medicine affiliated with the A. M. A. As the measure of public and medical protection is in direct ratio to the quality of organized medicine in the state it is interesting to read a few words about the situation in Pennsylvania.

This native state of the Quaker and of William Penn is accredited with a population of over 9,000,000 persons served by some 12,000 physicians. According to the Pennsylvania Medical Journal of November, 1928, these 12,000 physicians "represent a body of disorganized professional men and women with but one incentive and one objective in life—the pursuit of our daily vocation. All this situation has been brought this year to a climax, the appointment of the Freeman commission, the open hearings, the executive sessions, all of which is the



result of the failure of organized medicine to develop a sufficient political caste so as to make those designing the destinies of the laws deaf to legislation of so dangerous a type as that demanded by the cultists."

As "eternal vigilance" still remains the "price of liberty," it may not be amiss for Illinois to look a bit about her defenses. The cry from Macedonia as printed further in this same article in the Pennsylvania Medical Journal continues:

"Physicians engrossed and working with untiring interest in the practice of our profession, we have set ourselves apart both voluntarily and involuntarily from the pursuit of any other major interest. We have divorced ourselves entirely from civic and economic problems both at home and abroad. . . . However, great public problems, as well as professional advancement, have in late years demanded a visible expansion of each and all in turn and this has been evident in all businesses and professions save that of medicine.

Medicine has never organized, nor prepared a logical premise so that it might by virtue of its effort in the principles of government participate in the final activity of creating or maintaining laws directly affecting its own interests. Organized medicine as such has never presented in Philadelphia one bit of constructive legislative thought in the interest of our people or in the interest of our profession. This same statement cannot be made of any other single and now existing business or profession. The present-day physician of Pennsylvania represents a most unattractive picture of citizenship. The average doctor gives nothing either locally or statewide that is of any concrete benefit to the commonwealth. The present cult power both socially and politically comes mainly as the result of weakness, indifference and lack of organization on the part of our profession rather than upon any merit, skill or political finesse on the part of the cultists. For years gone by the medical profession has been indifferent and the cult group has grown in power by a well-designed and constant play of propaganda against a profession which was too proud to fight and too lazy to talk; a profession intoxicated with its traditions, reeking with its own confidence, and satisfied with its past history of greatness. The result is inevitable. Our profession has

been placed on the defensive because we lack that finesse and acumen so well demonstrated in the cult group, an ability to organize, and to work to a definite plan.

"Individually and collectively, the chiropractic destiny has been placed in the the hands of men who sell their philosophy to the people, the groundwork having been well laid by the individual cultist, usually unlicensed, who sells himself and the cult cause by proper propaganda to a sufficient degree to make its force felt in almost every community of our State.

"Each individual cultist has affiliated himself with a semi-political organization called a state association which is conducted practically through the expedient of extracting a sufficient amount of money from each individual cultist, distributed through a period of years, to care well and adequately for any and all expenses occurring. The individual cultist figures in no way except his obligation to sell his individual system to his own district. The larger and greater work is done through the semi-political agencies which have in their employ the best propagandists, the best lobbyists, and the most efficient lawyers obtainable, so as to bring the state-wide movement not under the realm of public-health thought or law, but to present it as one of political necessity or expediency.

"There has not been, nor is there now, any thought in the minds of those directing the present cult activity that they are, in any way, depending upon any class of legislation except that class created by political wisdom and necessity.

"These same leaders do not consider any individual cult group from the viewpoint of their efficiency. Rather do they believe that with the finances well and properly expended, laws will be presented to fit their desires.

"If organized medicine could show the equivalent of the political finesse and ability possessed by the cultists, organized medicine could well believe that there is no danger of the breaking down of our present laws, and the substitution of others in their stead. However, organized medicine must prove its worth in a very short period, and reach that perfection of political power and value which the cultists and their friends have been allowed to approach during a period covering a number of years. *Can it be done?*

"The almost ignorant and indifferent attitude

of the great mass of physicians properly to evaluate our own profession has been, in the past, our outstanding weakness. The legal bodies of our State always awake quickly, and adequately crush any individual or group of individuals who design to destroy or invalidate the rights of their profession. This, however, is not a part of the every-day makeup of the individual doctor. He declines and refuses to discuss public-health matters with his patients. He is too contented, too complacent, and too self-satisfied with his own profession to enter into a discussion of the lack of virtue in others.

"The people have been enlightened and propaganda has been broadcast for years to the effect that the so-called cult systems of drugless manipulation represent a true advance in the science of healing. There has also been preached far and wide the philosophy that the licensed physician today is simply the peddler of pills, and the public suspicion has been accentuated that all ills are not controlled by the giving of medicine.

"With this 'hymn of hate' so well spread, the cultist presents his so-called new and modern idea of treatment as a cure-all, or panacea for all ills. Organized medicine has refuted all the claims of cult treatment. We have demonstrated the fallacy of their premise. We have demonstrated the fact that their basis of diagnosis is entirely incorrect. However, we have not made this clear and definite in the mind of the public. We have taken it for granted that the public is able and competent to decide wisely in all these matters. Here organized medicine has again failed. The public has wavered. The people have developed some degree of confidence in the cult claims and an associated lack of confidence in organized medicine as represented by the doctor. This failure to hold public confidence is chargeable directly to the inefficient work by both the individual doctor as well as the collective groups.

"We have declined to take the public into our confidence. We have willfully sidetracked the discussions of the merit of the cult issues. We have cast an uncertain healer upon the public because of our indifference to meet the ever-present challenge of this growing menace.

"The cult problem is the result of the desire of certain individuals to practice medicine in the full extent of the phrase without complying with safe and adequate regulations maintained by

law. They want to come in and enjoy the privileges we now have, to jeopardize our public, to invalidate and destroy the real merit of scientific medicine in the interest of our people, so that they may, through vicious propaganda and the adequate spending of money, secure for themselves the right of license.

"Organized medicine and its individual members to a man must change their visual field and must realize at once that this controversy is *their* controversy, that this victory is *their* victory, and this defeat *their* defeat.

"The weakness in the very structure of organized medicine when it meets a foe, organized as the cultists are, leaves much to be desired and little to be admired. Therefore, coats must be off, sleeves rolled up, and with a determination in mind and heart, doctors must attempt to bring this impending battle to a favorable and satisfactory conclusion if they are to preserve and maintain the respect of the people whom they serve. High-sounding phrases and beautifully chosen words will not win this battle. It will be done by the individual and collective efforts of all."

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#### AN ANTIVIVISECTION BILL TO BE INTRODUCED IN THE FORTHCOM- ING SESSION OF THE ILLINOIS LEGISLATURE

According to press reports, Senator Thomas J. Courtney, recent Democratic candidate for attorney-general of Illinois, will introduce in the next session of the legislature for the antivivisection society what is known as an Antivivisection Bill.

The people of Illinois therefor will be confronted at the forthcoming session of the Illinois Legislature with a measure for the prevention of animal experimentation. This sort of legislation strikes at the very foundation of research work. Physicians do not need to be convinced or even reminded of the benefit to medicine for the use of animals in experimental work, but they do need to have it forcibly impressed upon them that if they take no cognizance of this movement the public may believe the untruthful statements and extravagant illustrations in the propaganda that will be distributed by the sponsors of the bill.

Aside from any organized effort which the



profession might make it is possible for physicians in their daily contact to give the public much information as to the truth about vivisection. In our next issue we will furnish the profession with detailed information of what animal experimentation has done to save human life and lessen morbidity.

### ALCOHOL IN ILLINOIS IN 1927 KILLED MORE PEOPLE THAN TYPHOID FEVER SCARLET FEVER, SMALL-POX, MENINGITIS, MEASLES AND INFANTILE PARALYSIS COMBINED

"Under date of November 26 the Associated Press quotes the Director of Public Health of Illinois as follows:

Dr. Isaac D. Rawlings, director of the state department of health, declared today that poisonous concoctions sold as bonded liquor resulted in more than 1,000 deaths in Illinois last year and gave the state its worst mortality from alcoholism.

"The 400 fatalities charged directly to alcoholism and the 731 to cirrhosis of the liver surpassed those found in the records for these sources, even in the days of the wide open saloon," Dr. Rawlings said. "One can surmise how many of the 1,722 persons killed by automobiles owe their demise primarily to rum drinking.

"Paying for health work out of 1 per cent and buying poisonous rum out of the other is the sorry economic practice disclosed by statistics which show that liquor drinking killed more people in Illinois last year than typhoid fever, scarlet fever, smallpox, meningitis, measles and infantile paralysis combined."

The 1,140 deaths registered last year from alcoholism and cirrhosis of the liver were 56 per cent higher than those registered in 1919, the first year after prohibition, Dr. Rawlings said, and higher than for any other year on record.

### ALCOHOLISM IN ARMY ALARMS SURGEON GENERAL IRELAND

According to the annual report of Major General M. W. Ireland, Surgeon General, alcoholism in the army is rapidly becoming a major peacetime problem. The report shows that 1,147 offi-

cers and enlisted men were admitted to hospitals for this cause during the fiscal year ended June 30th last. Seven of the cases resulted fatally. In addition, there was a number of other deaths probably due remotely to alcohol. Three deaths were charged to methyl alcohol poisoning.

Tables included in the report show that the alcoholism admission rate at the hospitals in 1917 was 8.63 per 1,000, a record exceeded only once since 1918 and then in 1922, when the rate reached 9.58 admissions per 1,000 officers and enlisted men.

#### INCREASE BY YEARS

The steady increase in the number of alcoholism cases since 1918 is indicated in the table as follows: 1918, .87; 1919, 1.73; 1920, 7.08; 1921, 7.15; 1922, 9.58; 1923, 7.89; 1924, 8.02; 1925, 7.98; 1926, 8.01, and 1927, 8.63.

#### FEWER DRUG ADDICTS

The surgeon general's report shows a substantial reduction in the number of hospital admissions for drug addictions. During the last fiscal year there were only 22 admissions for this cause as against 42 in 1926 and 55 in 1925. All of the cases were among white enlisted men, 14 in the United States, 1 in the Philippines, 3 in Hawaii, 2 in Panama, 1 in China and 1 on board transport.

### WHAT YOUR EDUCATIONAL COMMITTEE HAS DONE DURING OCTOBER AND NOVEMBER

#### *Speakers' Bureau:*

107—Speaking appointments were filled. Twenty-six of these talks were given in Illinois High Schools in observance of Health Day of American Education Week. The other appointments represent women's clubs, parent-teacher associations, men's clubs, factories and teachers' institutes.

Women physicians of the Chicago Medical Society have been secured to give talks on sex hygiene before the girls of the Juvenile Detention Home of Chicago. The request for this service came to the Educational Committee from the Chicago Woman's Aid.

#### *Radio:*

16—Radio talks have been given over sta-

tions WGN and WJJD on the following subjects:

Sunshine and Health.  
 Periodic Health Examination.  
 Health Hobbies.  
 Dangers of Colds.  
 Who Is Boss in Your House?  
 Care of the Skin.  
 Too Fat? Too Thin?  
 Colds.  
 How to Preserve Your Teeth.  
 Romanticism and Realism in Medicine.  
 Health and the Teeth.  
 Throat Infections.  
 Disorders of Speech.

#### Newspapers:

23—Articles have been written and approved by the Committee. Subjects covered have been:

A B C of the Balanced Diet.  
 War Against Rats.  
 Developing Pneumonia.  
 Safeguarding Against Contagion.  
 Clean Hands.  
 When the Baby Cries.  
 Certified Milk.  
 Season for Typhoid.  
 Halitosis.  
 Sleeping Sickness.  
 Health and School.  
 Good Style for Cold Weather.  
 Colds.  
 Food Poisoning.  
 Nephritis.  
 Frost Bite.  
 Have You a Hobby?  
 Are You Ready for Winter?  
 Blood Poisoning.  
 Undulant or Malta Fever.  
 Preventing Diphtheria.  
 Smallpox and Vaccination.  
 Automobiles and Carbon Monoxide.

666—Educational health articles were sent out to newspapers using the regular health column.

9—Special articles were sent to community newspapers in counties where there were epidemics.

485—Items were sent out to newspapers about the Quincy Clinical meeting, 8th Councilor Dis-

trict Meeting, Southern Illinois Medical Meeting, the Sunday afternoon lectures sponsored by the North Side Branch of the Chicago Medical Society, the special meeting of the McDonough County Medical Society.

67—Special items sent out to Chicago papers about meetings of the Chicago Medical Society and its branches.

#### Miscellaneous Material:

2—Poster exhibits arranged for a County Medical Society and the Kankakee High School.

3—Moving picture films on health subjects.

16—Folders of suggested material on special health subjects made up for physicians. (This was entirely aside from the material which is ordinarily sent out to speakers.)

The Educational Committee had an exhibit at the annual meeting of the American Public Health Association. Those visiting the exhibit were given copies of an article on the value of the periodic health examination.

JEAN McARTHUR,  
 Secretary, Educational Committee.

#### ILLINOIS STATE TRUDEAU SOCIETY

The annual meeting of the Illinois State Trudeau Society will be held Thursday, December 13, at Champaign, Illinois, in conjunction with the Champaign County Medical Society. Scientific program will be held at the Elks Club, commencing at 1:30 P. M. Luncheon at the Elks Club at 12:00 o'clock.

#### SCIENTIFIC PROGRAM

"The General Symptomatology of Active Phthisis"  
 .....Dr. Clarence Wheaton, Chicago  
 "The Prevention of Aspiratory Lung Abscess".....  
 .....Dr. Minas Joannides, Chicago  
 "Selection of Cases for Thorocoplasty".....  
 .....Dr. W. H. Watterson, Chicago  
 "Intestinal Tuberculosis".....  
 .....Dr. Robt. S. Berghoff, Chicago  
 "The Problem of the Cardiac Cripple".....  
 .....Dr. N. C. Gilbert, Chicago  
 "Differential Diagnosis in Pulmonary Tuberculosis  
 and Thyroidtoxicosis".....  
 .....Dr. Frank Dineen, Bloomington

#### DINNER

Hotel Inman—7:00 P. M.

#### EVENING PROGRAM

"Socialization in Medicine".....  
 .....Dr. W. D. Chapman, Silvis, Ill.  
 "Modern Treatment of Pneumonia".....  
 .....Dr. Frederick Tice, Chicago



# AMERICAN BOARD OF OTOLARYNGOLOGY WILL HOLD EXAMINATION IN PORTLAND, 1929

The American Board of Otolaryngology held an examination in New York City, October 11th. One hundred and thirty applicants were examined—one hundred and thirteen were passed.

An examination was held in St. Louis, October 15th. Seventy-nine were examined—sixty-eight were passed.

The Board will hold an examination in Portland, Ore., Monday, July 8th, 1929, during the session of the American Medical, and in Philadelphia in October, 1929, preceding the American Academy meeting in Atlantic City.

Those desiring information relative to the above will please communicate with Dr. W. P. Wherry, Secy. Board of Otolaryngology, 1500 Medical Arts Bldg., Omaha, Neb.

## INTERNATIONAL MEDICAL POST-GRADUATE COURSES IN BERLIN

International medical postgraduate courses in Berlin are arranged with the help of the medical faculty of the University by the Lecturers' Association for medical continuation courses and the Kaiserin Friedrich-Haus. Part of the courses take place permanently, part only in March-April, 1929.

### *I. Permanent Courses*

(a) Courses during 2 to 4 weeks.

(b) Courses as guest-assistants in clinics, hospitals and laboratories during 2 to 3 months and longer for gentlemen desiring to do practical work under systematic supervision.

### *II. Courses in March-April, 1929*

(a) General course: Progress in the realm of medicine, with special regard to diseases of the heart" (from 4th-16th March) with the co-operation of the following gentlemen: v. Bergmann, Dresel, F. Klemperer, Munk, Rosin, V. Schilling, Schlayer, Straub. fee RM 80.—

(b) Special course in urology (from 18th-23rd March) with the co-operation of the following gentlemen: Bätzner, Casper, E. Joseph, v. Lichtenberg, Ringelb, Rumpel. fee RM 75.—

(c) Special course in surgery on the theme: "A week on breast and stomach surgery" (from 18th March-13th April) with the co-operation of the following gentlemen: Bätzner, Bier, Borchardt, Katzenstein, Kisch, Mühsam, Sauerbruch, Unger. fee RM 75.—

(d) Special course in Roentgenology, taking into particular consideration its application in surgery (from 14-21st April) with the co-operation of the following gentlemen: Chaoul, Max Cohn, Cramer, Frik, Hintze, Lazarus, Levy-Dorn, Munk, Rumpel. fee RM 100.—

(e) Single courses on all special fields of medical science, including practical work.

The courses are held in German, but numerous

professors are able to lecture in the English, French and Spanish language.

The information bureau of the Kaiserin Friedrich-Haus für das ärztliche Fortbildungswesen, Berlin NW 6, Luisenplatz 2-4 is instrumental in procuring suitable lodgings, give information as to cost of stay, arranges the attendance in clinics at operations, etc., and, upon desire, sends detailed syllabuses.

## Correspondence

### WOMEN'S AUXILIARY NEWS

Vermilion County reports enjoyable meetings with many speakers sent by the Education Committee on the same evenings as the County Medical Society. On one occasion the Medical Society invited the ladies for a dinner, served about fourteen miles from the city. One evening was given to a purely social time, with a dinner and bridge at the Country Club. The president is Mrs. C. E. Wilkinson, of Danville, Illinois.

The Auxiliary of the Chicago Medical Society had a luncheon and meeting with speakers at the Stevens Hotel on November 7, 1928. The president is Mrs. Charles Parkes.

The Jackson Park Branch Auxiliary has held two evening meetings since October, with a speaker sent by the Education Committee. This Auxiliary is one of the constituent societies of the Chicago Medical Society Auxiliary, in which six out of fifteen branches are organized with a Central Auxiliary.

DeKalb County was recently organized. Fulton County reports meetings and have requested speakers.

Before the Southern Illinois Medical Association on November 8, 1928, there was a large attendance at the dinner of physicians from the various counties, including many ladies. Dr. J. R. Neal spoke on Medical Legislation and Mrs. G. H. Mundt on the auxiliary.

Coles-Cumberland Auxiliary had a luncheon on Thursday in Mattoon, Illinois.

The Executive Board of the Woman's Auxiliary to the American Medical Association met Saturday at the Stevens Hotel to plan for a program to be given at the Portland meeting, which begins July 7. The Portland State Auxiliary is making elaborate plans for entertainment.

Can't we have our counties well organized before our own state meeting in the spring, as well as before the National meeting? Every

county should soon put on a membership campaign.

MRS. G. HENRY MUNDT, PRESIDENT

### CITY OF DES PLAINES PROTESTS TO COOK COUNTY BOARD

The chairman of the civil service committee and the city director of the city of Des Plaines have forwarded to us the following communication for publication in the ILLINOIS MEDICAL JOURNAL:

*To the Editor:*

We, the undersigned residents of Des Plaines, in Cook County, Illinois, respectfully represent unto your honorable body that: About the year 1921 there was organized in the city of Des Plaines a Community Nurse plan and that for the first few years the salary of the Community Nurse was paid by the Chicago Tuberculosis Institute and the Des Plaines Community Council; later the entire cost was paid by the Des Plaines Community Nurse Council. This nurse devoted her entire time to the three grammar schools of the City of Des Plaines, the two Parochial Schools and the Maine Township High School.

During the month of February and immediately thereafter, of this year, the proposition was made through the Lions Club of Des Plaines, Illinois, that the Community Nurse be placed under the jurisdiction of the Cook County Health Department and that the Community Welfare work be placed under the jurisdiction of the local Community Chest. During the discussion of the proposed change Dr. Herbert Wright, director of the Cook County Health Department, appeared before the Lions Club at Des Plaines and before the Board of Directors of the Lions Club of Des Plaines and stated that: If the Community Nurse of Des Plaines was placed under the jurisdiction of the Cook County Health Department, of which he was the head, that Des Plaines should have in the future, as in the past, a nurse especially assigned to Des Plaines and the schools located there and that this nurse would devote her entire time and attention to the care of Des Plaines and also in case of necessity, an additional nurse or nurses would be assigned to Des Plaines, if the case should ever demand. In other words, it was specifically promised and understood that the serv-

ice the community would receive under the new regime should be no less, but greater, than the community received under the Des Plaines Community Nurse Council.

Relying on this promise and these representations, the Des Plaines Community Nurse Council was dissolved and the nurse placed under the jurisdiction of the Cook County Health Department. At first this arrangement worked out satisfactorily—later, for some reason not explained, the resident nurse was transferred and the nurse now assigned to Des Plaines lives at 95th Street, which necessitates a long travel back and forth each day, and furthermore, this nurse has assigned to her additional schools so that the time she can devote to Des Plaines is only a small fraction of the time the Community Nurse devoted to our community under the local Community Nurse plan and under the plan as followed out under the Cook County Health Department the first month or two after its jurisdiction. This situation and this state of affairs is unsatisfactory and is very detrimental to the best interest of the children of the schools of Des Plaines and is detrimental to the best interest of the community.

Wherefore, your petitioner respectfully requests:

1. That steps be taken to reorganize the Cook County Health Bureau. That there be placed at the head of the recognized bureau a licensed physician with regular standing with a fine record in Public Health work.

2. That a nurse be assigned to our community in accordance with the original agreement and that such nurse shall live in Des Plaines, or conveniently nearby whose sole duty shall be to take care of needs of Des Plaines and the immediate vicinity.

3. That these requests be acted on at the earliest possible moment as an emergency exists and lack of suitable supervision on the part of the Community Nurse may lead to disastrous results.

### MAYO CLINIC DESIRES BACK VOLUMES OF THE ILLINOIS MEDICAL JOURNAL

Mayo Clinic, Rochester, Minn.

*To the Editor:*

October 12, 1928.

We should greatly appreciate it if you could supply us with the numbers of the ILLINOIS



MEDICAL JOURNAL which I am listing below. We are trying to complete our volumes for binding and we lack these numbers.

Volume 1-6 inclusive, all numbers.

Volume 7:1905: numbers 2 and 6.

Volume 8:1905: numbers 1, 2, 3, 4 and 6.

Volume 9:1906: number 1.

Volume 10:1906: numbers 4, 5 and 6.

Volume 11:1907: numbers 1-6 inclusive.

Volume 12:1907: numbers 2-6 inclusive.

Volume 13-15: 1908-1909: inclusive, all numbers.

Volume 16:1909: numbers 1, 3, 4 and 5.

Volume 17:1910: number 1.

Volume 20:1911: number 6.

Volume 21:1912: numbers 1, 2, 4, 5 and 6.

Volume 22:1912: numbers 1-6 inclusive.

Volume 23:1913: number 4.

Volume 27:1915: number 2 and 6.

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#### NOT HER!

"Did my wife speak at the meeting yesterday?"

"I don't know your wife, but there was a tall, thin woman who rose and said she could not find words to express her feelings."

"That wasn't my wife!

## Original Articles

### EDUCATIONAL COMMITTEE HAS GONE FAR AND ACCOMPLISHED MUCH

BRIEF CONSIDERATION OF WHAT THIS COMMITTEE OF THE ILLINOIS STATE MEDICAL SOCIETY HAS DONE DURING ITS SHORT EXISTENCE AND ITS AIMS FOR THE BENEFIT OF THE PUBLIC HEALTH AND THE CONSERVATION OF THE RIGHTS OF THE PROFESSION

CHARLES J. WHALEN, M. A., M. D., LL.B.  
CHICAGO

During the five years of existence of the educational committee of the Illinois State Medical Society, this body has gone far and accomplished much.

Where the general public is concerned, activities of this committee are of an inestimable value. As an important factor in the effort to stem the drift of medical practice from the hands of the medical profession into those of uneducated, misinformed or unscrupulous individuals, this educational committee has already demonstrated that this work should have been begun at least a quarter of a century ago. Throughout this neglected interval have sprung up many vicious tendencies and drastic evils, destined to destroy the usefulness and inherent purport of the application of the science of medicine.

Certainly these evils could not have flourished unless the general public had afforded fertile soil for this growth, and as certainly this fertile soil afforded by the public comes to no small degree from the general ignorance on the part of the public, that in its turn has been fostered, unconsciously enough, by the former rigid aloofness on the part of the medical profession, that has kept the profession from taking the general public into its confidence as to the quality and quantity of progress made by doctors in the conquest or alleviation of disease.

No fairy tale broadcast by quack, charlatan or cult can equal the wonders, ay, almost the magic, accomplished by the ethical profession in the last fifty years. It may be that modesty en-

gendered the apathy felt by the medical profession as to the public's knowledge of what medicine has done, and is doing. Even if this attitude can be explained by modesty on the part of the profession, it must be admitted that for this modesty, the general public has been forced to pay a terrific price, that in turn is being exacted of the profession itself by the turning of the public to those institutions fostered by the worst enemy in the world of initiative medical practice—the endowed medical foundation, and the lay institution taking over the practice of medicine, especially when controlled politically. Equally true is it that in the repetitive process of history, the public will suffer from the demoralization of the quality of medical service that will result from the socialization of medicine through these foundations. In the meantime ethical medicine has begun its herculean task of setting the public straight on the question of medical economics, since this question vitally affects public health, public welfare and even the future of civilization.

Terrific as is the handicap resulting from this half century of medical apathy, and containing among other alarming fundamentals, the idea prevalent in the minds of many wealthy, misguided philanthropists groping to achieve the greatest good for the greatest number, and hoping to do this through the self-arrogated direction of the practice of the healing arts, already enough progress has been made not only to justify the existence of the educational committee but to urge its continuance of effort and enlargement of orbit.

In Illinois a rapid resume of what has been done, or is now in progress of accomplishment, pivots upon certain elemental proceedings urged upon the profession for upwards of a quarter of a century by *The ILLINOIS MEDICAL JOURNAL* and its editors.

These fundamentals include combating

- (1) Lay dictation and control of medical practice.
- (2) Endowed foundations entering practice of medicine.
- (3) Corporations engaged in medical practice.
- (4) Inimical medical legislation.
- (5) Political control and interference with medical practice.

(6) Unrestricted activities of quacks with general public health.

(7) Lay and semi-lay pay clinic for other than the poor.

(8) Superseding of physician by overtrained nurse.

(9) Health departments practicing general instead of preventive medicine.

(10) Various other similar and correlated vicious tendencies.

Let it be repeated again and again that if the science of medicine is to live up to its ideals and purposes, it must fight these enemies of the public health and national welfare with their own fire, and in the terms of their own language. Not by false promise or sanguine deceptions such as are the charlatan's stock in trade, but rather by plain statements of scientific fact, can the medical profession save the national health from destruction, through its justified promises of alleviation, and even possible cures, of physical misery among a suffering public.

To bring this knowledge to the public is the task of the educational committee of the Illinois State Medical Society.

Vitally important too is the reinforcement of the profession. Standards of medical education have been raised from time to time until at present, the requirements are so high, that a man can not enter the practice of medicine until he has reached approximately twenty-seven years of age. This means, too, that he will have expended upwards of \$25,000 of money already earned to secure his medical education, to say nothing of the loss of another \$25,000 potential profits that he might have been making from the time he was sixteen years of age, while working as a bricklayer, at wages far in excess of what the average doctor makes in practice of medicine.

Pit this against the exponents of the cults and systems who are being advertised for in all the cheaper class of magazines and periodicals, to "take an eight weeks' course and learn to be a somekindoranother-ic and get a doctor's certificate." Brakemen, plumbers, and even ambitious barbers are studying short courses of weird systems at home, nights and noon times, and actually clamoring for recognition as scientific medical men. The public shows signs to a small extent of awakening to what it needs for its



own protection, through efforts of the lay education campaign of the Illinois State Medical Society.

Another momentous point lies in the fact that the trend of modern education has left its mark upon the younger generation of doctors, in that these younger men forget that the routine of life lies in small things. More than seventy-five per cent of human ailments are to be classed accurately as temporary trivialities. Now these younger doctors, for the most part, have ambitious eyes fixed upon the great moments of medicine with almost complete disregard of the everlasting minorities. Intent upon hopes of the critical laparotomy, or other serious surgical operation, idealistic young physicians are prone to neglect the every day need of the ailing public. And right here is the loop-hole through which the bogus practitioner creeps to find the foothold by which he sometimes dislodges and supersedes the skilled man. We are educating specialists, and not doctors. The public needs many doctors and only a few specialists.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that insidiously deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians towards the annoying ailments of prevalence and frequency that forces the people to seek care and a sympathetic ear from the pseudists.

Powerful appeal of the false healers is the seeming shrewd fashion in which these dispensers of bunk appear to take the patients into the full confidence of their supposedly wonderful systems. The subtlety of this suggestion to personal vanity is incalculable.

The educational committee of the Illinois State Medical Society daily experiences these contributory menaces to the national welfare and the public health that have arisen from this apathetic negligence on the part of the medical profession. These include the centralization of administrative power in non-scientific authority, and in non-medical people; fiat medical practice, and the usurpation of medical rights by non-medical people; insolences of over-

trained nurses, who attempt to practice medicine instead of restricting themselves to their own orbit; hospitalization of the sick at the mercy of pecuniary considerations; the introduction of dangerous and restrictive legislation such as the Harrison Drug act and the Sheppard-Towner Act and the new Sheppard-Towner-Newton bill, and the numerous chiropractic and osteopathic bills.

Although this fight is waged from Illinois' standpoint, yet the fight is not for Illinois alone. The State has become only a type state with every other state in the Union feeling the menace with equal weight.

The educational committee is aiming to place the campaign in the very center of the public eye. Work of this sort costs money as the cults have found out, as they pay millions of dollars annually. Cults and their kind must pay for every inch of space in a newspaper, magazine, or on a billboard. The medical profession deals, in the record of its achievements, with that sacred element of modern life, known as NEWS—in other words, in information of accurate interest and benefit to the human race, whether as a guide, or as a warning, all of which is based upon personal experience or scientific fact.

Thousands of avenues of distribution have been opened to the purveyors of such elucidative data. The space that this data secures from the public and lay press, and other distributive centers is not for sale at any price. No quack can secure that hearing, if it is known that he is a quack. The medical profession got busy and told the truth about itself so that the public is learning the difference between skill and bunk, just as it has learned the difference between tin and silver, cotton and wool. The lay public is not the only section of the population that needs education. There are many physicians who need a little education themselves to have their eyes opened as to the speed and completeness with which medicine is drifting out of the hands of the doctors into most questionable harbors.

The committee outlines that among the aims of its work have been:

1. Classification and centralization of the resources of the association in point of publicity.

- (a) Men engaged in research work of public interest.
  - (b) Men tangent to the lay press, the lecture platform, stage and other centers of public distribution.
  - (c) Medical men in the public eye, whose spoken or written word has a publicity value.
2. Establishment of general publicity media for news and feature material, which shall tend to:
- (a) Correct misinformation on medical subjects.
  - (b) Place the profession more conspicuously in the lay press.
  - (c) Present an adequate background for additional protective legislation.
3. Enlistment of active co-operation from the county societies in the state for the purpose of:
- (a) Making the campaign an affair of every doctor, rather than of a committee.
  - (b) Inviting participatory rather than detached criticism.
  - (c) Securing for major news a state wide diffusion that will exceed syndicate possibilities.
  - (d) Utilizing local detail and experience for the feature work of the central bureau.
  - (e) Radio talks by doctors.

For the accomplishment of this, the association appointed the educational committee. The "press agent" part of this committee's duties included:

- 1. Preparation of feature articles for use in magazines with a substantial circulation in Illinois syndicates, state and local publications.
- 2. Preparation of news stories based upon current activities of the association that will be suitable for use by syndicates, press associations and city newspapers, and for adaptation by country newspapers.
- 3. Establishment of press contacts.
- 4. Preparation of material for use by physicians who will speak before lay organizations.
- 5. Research work in current medical history, background work of significance and suitable media for such facts.
- 6. The general contact point between the lay press and the profession in the state of Illinois.
- 7. Personal conference with county societies

throughout the state at some time during the year in order to:

- (a) Convince the membership of these branches of the necessity for and the suitability of the campaign.
- (b) Local problem analyzation.
- (c) Establishment of procedure for the handling of local publicity situations.
- (d) Arrangements for local society to use material supplied from central press bureau and to function for local media.
- (e) Enlistment of participation in campaign from the local branch membership.

8. Establishment of central bureau to provide speakers and to create opportunities for these speakers to discuss subjects worthy of and suitable for presentation in a popular vein to lay audiences.

9. Establishment of organization contacts to co-ordinate with the lay press, and the inauguration of popular "drives" on projects designated by the governing committee.

The most captious of critics will observe that this program is one that is carried out with all due consideration for the traditions of self-respecting medicine. Dignity, truth and redemption of the public welfare from the quagmires of bunk will be the eventual fruits of the campaign. The general public is hungry for news of the functions of the ever troublesome body and the simple way in which it may be cared for. Proof of this is found in the tremendous amount of "medical answers" carried in every daily periodical in the country. Medicine is the most destructive of professions. Working on its elemental doctrine of prophylaxis it labors to its undoing, but there is much yet to be done before the race will have reached the millenium of physical perfection. MUCH MUST BE DONE at once to restrict the outrages perpetrated by the pseudo-medical-incompetents, or centuries of medical research and professional devotion will go for naught.

The doctor as an individual is caught between two fires. In addition to the work of the buncomedics, the increasing knowledge of specifics for standardized diseases has brought into play a vast possibility for self-medication, that an egoistic public has availed itself of with much



avidity. The fine point of diagnosis is too often overlooked. One of the crimes against it is the maudlin cry of the chiropractic that any ailment under the sun can be diagnosed from a wiggle of the spine. If the claim were for any ailment under the sod, there would be no argument, but not until the death rate shows an alarming increase will the public awake, and that too late.

Hampered by laws that make it impossible for a physician to prescribe certain drugs when and how he wishes, but only as a few non-medical lawmakers think he should, the doctor is still doing his best. Would the Harrison Narcotic law, the inhibitions of Volstead Act and a dozen other insanities be on the statute books of the country today if the public and the physicians, too, had been aware of what was meant? Though never at any time a user of alcoholics, tobacco, or other narcotics, the speaker has had an ample opportunity to feel the whip of fiat medical practice.

Dr. George E. Vincent, an able educator, has said "In democratic countries like the United States, Great Britain, and Canada and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science can not attain the place it deserves, or render the service of which it is capable. Chemical, electrical and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the support of a much more intelligent imagination and sympathetic form of public opinion."

It is the creation and support of such a public opinion that is the aim of the lay educational campaign of the Illinois State Medical Society.

## THE RHINOLOGICAL PROBLEM IN ASTHMA\*

BURTON HASELTINE, M. D., F. A. C. S.

CHICAGO

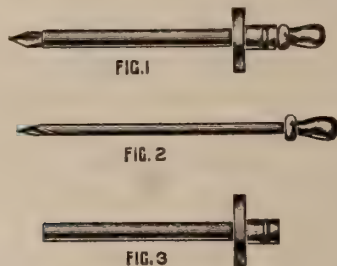
No other problem so imperatively demands the attention of rhinologists today as the one presented by the group of conditions suggested by the term asthma. It is unfortunate that we have no precise nomenclature covering these rather closely allied phenomena, but they are fairly well included in the three terms, asthma, hay fever and hyperesthetic rhinitis. The term allergy is not satisfactory since its limits are vaguely defined and many of the manifestations are admittedly non-allergic. But in considering this group of phenomena, whatever our nomenclature and whatever our point of view, the rhinologist is in the picture and the problem is one which he cannot escape. His relation to the subject has undergone rather curious oscillations. The wave of over-enthusiasm led by Bosworth in the eighteen nineties was followed by a too pessimistic reaction. In this stage the rhinologist tried to side-step the whole question only to have it forced back upon him by the sheer weight of clinical evidence. For the fact remains and is perennially being re-discovered that the syndrome culminating in bronchospasm is one in which the rhinological factor is of prime importance.

Furthermore, in the still regrettably small number of cases in which treatment has been strikingly successful, intelligent and skillful rhinology has played a rather conspicuous part. That rhinology has not always been skillful and intelligent is shown by the sad failures constantly being cited for our humiliation. A proper utilization of knowledge now available will protect us from such failure and humiliation. It is no longer necessary to proceed by the method of trial and error in dealing with the asthma patient. It is not necessary to subject him to a prolonged series of peculiar tests to search out some specific causes for his difficulty. It is not necessary for the rhinologist to try various operations in the hope that he may do that unknown thing which in some cases has brought such dramatic relief.

It is now possible clearly to define the rhinô-

\*Read before the Section on Eye, Ear, Nose and Throat, Seventy-eighth Annual Meeting of the Illinois State Medical Society, Chicago, May 9, 1928.

ogist's relation to the asthma problem both as regards the general question and as regards the individual patient. He has a double function to perform because he may have to deal with either of the two fundamental factors in the production of broncho-spasm and often with both simultaneously. It cannot be too emphatically stated nor too often repeated that these two fundamental factors are: 1. A chronic disturbance of metabolism toxic in nature; 2. A source of vagus irritation in the respiratory tract usually



in the nose. The particular area in the nose especially concerned in broncho-spasm has been independently discovered by many observers, myself included. I wrote about it in 1910, thinking I was making a new observation, not knowing that Brodie and Dixon had proved it experimentally five years before. It has recently been re-discovered by a very eminent English surgeon, Sir Dundas Grant, and described by him in the *Practitioner* for December, 1927.

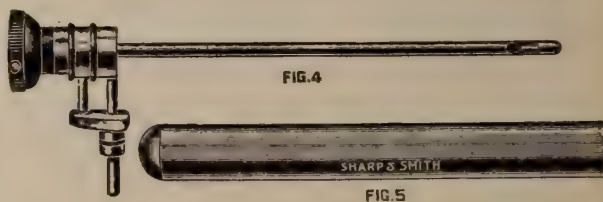
I have always used the phrase "Ethmoid region" to describe this area and I still think it the best term if we agree as to what it defines. It includes the ethmoid or middle turbinal and the areas adjacent to it, both of the septum and the outer wall. These are the areas that normally produce the sneeze and cough reflex and they are notoriously the areas which in susceptible subjects produce broncho-spasm. It is with this understanding that we continue to use the term.

In searching for causes of the underlying toxic state rhinological study is indispensable even though the stage of broncho-spasm has not been reached. Our first function, then, is to determine what sources of infection are to be found in this field and to what extent they are removable. In this we work closely in cooperation with the internist. In cases that have reached the stage of broncho-spasm we know that there is a source of vagus irritation in the respiratory tract and if we be not inexcusably ignorant we

know the outstanding importance of the ethmoid region in this respect.

Our second function, then, existing only in broncho-spastic cases, is to determine what sources of vagus irritation exist in the nose or throat and to what extent they are removable. At this point we need in addition to a high degree of rhinological skill and judgment some special knowledge of nervous anatomy and physiology. My own belief is that entirely too much mystery is being made out of the whole question of nasal reflexes. We will not discuss the large subject of pain fields but certainly the subject of spasms need not be as mysterious as it is usually considered to be.

No one can and no one does write about broncho-spasm and ignore the nasal factor. But if we bring together the opinions on this point published in the last year we have a sad jumble of often contradictory guesses. The argument often descends to petty disputes valueless to all participants. In England we have Auld (B. M. J. Feb. 4, 1928) discussing the nasal factor in a way that sounds medieval to American rhinologists. In America we have Rackemann supported by Bishop, classifying asthma into intrinsic and extrinsic and by this very classification excluding from rhinological treatment some of the cases in which it is most effective. Sham-

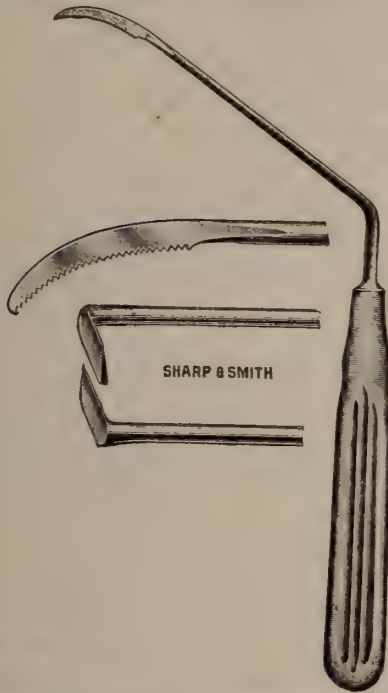


baugh in the Year Book for 1927, gives in one page a remarkably clear statement of modern rhinological views on this subject. He aptly warns against blind attempts to relieve asthma by simply cutting something out of the nose. He has an unusually sane attitude toward the mystic fog that has recently enveloped the sphenopalatine ganglion. But he lacks a clear appreciation of the comparatively simple nasovagal reflex involved in broncho-spasm, now recognized by most neuro-physiologists. This reflex arc, first described by me in 1912 as explaining the nasal cause of broncho-spasm, has since been mentioned by several writers and generally accepted by neurologists. It supplies the anatomical explanation for the phenomena observed



by Brodie and Dixon, as well as the clinical phenomena more recently noticed by Sir Dundas Grant. With the addition of Gaskell's work on the autonomic nervous system we now have the element of mystery quite eliminated.

It is now clear that regarding asthma the rhinologist is in a peculiar position because the



successful treatment of asthma is impossible without his aid; and there is placed upon him a responsibility of the gravest magnitude. This responsibility is a double, even a treble, one if we may so express it. It demands his utmost skill in diagnosis, in prognosis, and in treatment. Not even second in importance to the work of the internist is that of the rhinologist in determining the amount and nature of nasal abnormality, with its exact causal relationship, and his efficiency in removing or correcting it.

The first step in acquiring adequate diagnostic skill is a sort of re-inventory of the usual diagnostic methods. This does not mean the discarding of any method, but a certain shifting of emphasis and the addition of some measures not commonly employed. First, we would place more careful, detailed and *repeated* direct study of the interior of the nose by anterior and posterior rhinoscopy, which includes the use of the nasopharyngoscope in skilled hands. A rhinological diagnosis without this instrument, or by one unpracticed in its use, is much like

an ophthalmological diagnosis with similar neglect of the ophthalmoscope. Second would be a lessening of emphasis upon the x-ray picture. There is much need for this change. The psychology of picture-taking has greatly impressed the layman and the rhinologist is not immune to its allurements. He is too much inclined to lean upon it to the neglect of more valuable measures.

If we were compelled to begin cutting down the number of our diagnostic resources, this would probably be the first to go, unless it be transillumination, which is perhaps of even less value. In doubtful sphenoid cases, the skiagraph does give information not otherwise obtainable and in frontals it is sometimes helpful. In ethmoids it is of little use, while in questions of antral pathology, now that we have the antroscope, the x-ray becomes almost useless except to reveal infection of dental origin.

This ingenious and valuable instrument is still so little known as recently to have been described as new by a Philadelphia rhinologist.\* I will therefore quote my first description of it, published in *Clinical Medicine* for March, 1925.

Naturally, before making a definite prognosis or undertaking treatment in any case, it is desirable to know the amount of pathology in all the accessory sinuses. For the antrum, this is accomplished by one complete inspection with the Wappler antroscope, easily made in any adult patient without serious discomfort. One-fourth to one-half dram of 4 per cent. procain with three or four drops 1-1000 adrenalin is injected through the buccal mucous membrane into the canine fossa after which the trocar may be passed directly into the antrum, all parts of which may be leisurely inspected. No injection either of air or of liquid is needed, although irrigation may be employed if for any reason desirable. As the antroscope is as yet known to few rhinologists, I have obtained from Messrs. Sharp & Smith cuts of the Wappler instrument which are shown herewith. The instrument as shown in Fig. 4 is about 11½ Fr. in calibre. It provides a clear, upright, slightly magnified view. Fig. 3 is the cannula, Fig. 2 the trocar and Fig. 1 the two combined. Fig. 5 is a sheath for protecting the instrument when not in use. The antroscope was originally intended for use through the nasal meatus by puncturing the naso-antral wall but the approach through the canine fossa is in every way preferable. It is less disagreeable to the patient, less difficult for the operator and it provides a view of the entire antral cavity, including the apex, which is impossible by the nasal route.

For one equipped with the nasopharyngoscope it is not necessary to purchase the special antro-

\*Dr. Philip S. Stout, *Larynoscope*, January, 1928.

scope. By the use of the Duke trocar, originally made for use in thoracic empyema, the same procedure can be employed without difficulty. It is well to have this trocar shortened slightly to adapt it to the length of the nasopharyngoscope, which it otherwise fits perfectly.

With all the information obtainable by these combined measures, we are prepared to take up the question of treatment. Here again, and perhaps most of all, there is need for a radical shifting of emphasis. In the minds of both doctors and layman, the words "nasal treatment" are practically synonymous with "operation." This has resulted from disappointment with spray and irrigation methods and from the development of modern intranasal surgery. With nonsurgical resources so meager, and with surgical technic enormously improved, the usual rhinological diagnosis has come to mean little more than whether or not to operate.

This situation is now happily being modified by a wider acquaintance with the Dowling method of treating nasal infections. Many rhinologists have only recently learned of the value of colloidal silver tampons in treating nasal infections and in the satisfaction of unexpectedly good results have possibly shown over enthusiasm. In the *Annals of Otology* for March, 1928, R. H. Skillern refers to it as a new idea and uses the word "panacea." This does the method injustice in two ways: It is not new, having been in constant use by numerous specialists for more than twenty years. It is not a panacea, but has clearly defined indications and limitations which have repeatedly been described in literature. The term "Dowling treatment," by which it is universally known, was first applied to it by myself because it was originated and published by Doctor J. I. Dowling of Albany, N. Y., from whom I obtained it in 1905.

With the advent of colloidal chemistry, Dowling saw the value of a substance that could do two things impossible to crystalloids; namely, pass through a living membrane without damage to it and destroy bacterial life without injury to the tissues of the host. Dowling alone seems to have appreciated the time element in the process and to have seen the advantage of prolonged contact of the solution with the tissues, which is not possible by irrigation. The Dowling method differs radically from all other procedures deal-

ing with mucous-membrane infections in that it is not a surface treatment. Recognizing that the pathology is beneath the surface, he utilizes the principle of osmosis and obtains results impossible by any form of surface application. His so-called tampon is simply the application to the mucous surface of a cotton pad saturated in a colloidal silver solution and allowing this to remain until the solution is taken up by the tissues, this being from forty to eighty minutes. Experiment shows that the solution is distributed by the circulation far beyond the area of its application. His preference is for an aqueous solution of argyrol in a strength of about ten per cent. The mucous surface must, of course, be clean and it is desirable to cover with the cotton pads every available bit of the intranasal mucosa except the floor. No cocaine nor adrenalin should be employed, since these greatly lessen the effect of the treatment. It is important to reach the posterior and upper nasal spaces and as far in the infundibular direction as possible without trauma. The clumsy stuffing of cotton wads into the anterior nose, so often called Dowling treatment, is nothing but a travesty.

The niceties of technic are highly important. My own practice differs slightly from that of Dowling. Instead of a single large tampon, I use a variable number of thin and delicate wisps of long fiber cotton. This is especially important in asthma cases because the "asthma-genetic zone" often cannot be reached by a large tampon. These delicate pads are successively applied with a slender, polished, tapering applicator in sufficient number to cover the nasal mucosa all the way from the nasopharyngeal vault and the cribriform plate around the under surface of the ethmoid turbinal and upward upon its outer surface to a considerable extent. After swelling is reduced by a few treatments, the turbinal can be almost entirely enveloped by the tampons. It is desirable that the cotton be easily released from the applicator and left at the farthest point reached without crowding or friction. The economical nose specialist who uses rough, rusty, or crooked applicators often unwittingly does an intranasal massage that leaves his patient in worse condition than before.

Besides the therapeutic use of the tampon, it has an important diagnostic value. This is the change in color (blanching) which the solution



undergoes in the presence of infection. This change is unmistakable and positively indicates infection even in the absence of other signs. In obscure or doubtful cases a succession of six to ten "diagnostic treatments" should be given after which the blanched tampon or even the appearance of pus or small polyps in the deep recesses will often remove all doubt.

The value of this procedure in treating nasal infections has naturally brought it into prominence in connection with the asthma work. Many rhinologists, supposing it to be new, have raised the question of the possible danger of argyria. In the query column of the *Journal A. M. A.* such questions have appeared with only speculative answers. The editor, Doctor Morris Fishbein, has kindly given me a list of available articles on argyria. These have been carefully searched and nothing has been found suggesting argyria from this procedure.

It is emphatically not a method for self treatment and the solutions should not be given to the patient. This is one serious objection to the use of a trade name. It is neither necessary nor wise to use strong solutions. Those who employ fifty per cent. solutions betray lack of experience with the method and perhaps take some risk. It is probably unwise to use it upon areas denuded of mucosa. Observing these precautions, the rhinologist may use the method for any length of time with no apprehension and it will materially contribute to his success.

122 South Michigan Avenue.

#### DISCUSSION

Dr. Dean Myers, Ann Arbor, Mich. History does not seem to go back far enough to antedate asthma. I feel sure that even Adam wheezed a bit after his overindulgence in the shade of that old apple tree. This ought to be meat for the worshippers at the shrine of heredity as the cause of asthma. In an historical survey purporting to cover all knowledge of bronchial asthma, published in the March number of one of America's important medical magazines, a well-known writer on this subject concludes his article with the discouraging statement—"The cure of asthma is therefore not to be expected until a method has been found which will alter the chromosomal constitution, either in the adult, or more radically in the genetic cells." All the author has to suggest is that ephedrin is superior to adrenalin as a relief measure. If we accept his conclusions we admit of no progress whatsoever in all these years toward the discovery of a cure for asthma. In the consideration of any disease every fair-minded medical man is chiefly concerned with cure, but in order to achieve it

he must consider both cause and effect. Modern scientific research in asthma has been studying extensively and reporting entertainingly upon effects, but their cause and cure present problems as far from being solved as ever, unless we accept the work of two men, Dr. Burton Haseltine in America and Dr. James Adam in Scotland. These men have presented a definite theory of the cause of asthma. This theory, which they have successfully defended with results, maintains that asthma is a result of toxemia, that its cause is a toxin in some form or other, and that the spasm depends upon a delicate nerve chain connecting the upper air passage with the bronchial musculature. Their studies point clearly to the fact that allergy is an effect, not a cause, that anaphylaxis is an effect that hypersensitiveness is an effect, that disturbance of endocrine functions is an effect, that asthma itself is an effect, and that the cause of all these is toxemia.

The part played by the nose in the asthma syndrome may be two-fold; first, it is usually the receiving end for the nervous impulse that produces the bronchospasm, and, second, it may be the source of the infection which provides the toxemia. It is this latter phase which I wish briefly to discuss. Much unnecessary surgery is inflicted upon the ethmoid region, also much bungling and unintelligent surgery fails to give relief where surgery is actually needed and where good surgery would bring relief. It is probably true that a large percentage of asthmatics have no actual suppuration of the ethmoid cells and consequently call for no surgical procedure. It is quite generally accepted that pyogenic bacteria seldom find their way into the ethmoid cells, and if they do, the action of the ciliated lining of these cells rapidly removes them. The lining of these cells, while classed as a mucous membrane, is not a mucous membrane of the mucus producing type such as we find lining the nasal cavity. We have been in the habit of speaking of all postnasal catarrhs as chronic ethmoiditis. In this we have been wrong. How many of you would expect to find pus in the posterior ethmoid antrum if you were to open that cell in every case of chronic postnasal catarrh? As a matter of fact, you know you would not find it present in one out of every hundred such cases. The actual location of this trouble is in the superior meatus or so-called olfactory passage. The thing that has escaped the attention of too many rhinologists is the deep depression or pocket-like formation of this space. Just recall for a moment your study of models or dried specimens of the skull, and you will visualize this deep depression in the outer wall of the nose lying like a cave or depression in the ethmoid body and containing the opening from the posterior ethmoid cells. A study of the conformation of this area will at once reveal the source of most postnasal discharges. It is a fine basin for the retention of mucus and the harboring of bacteria. The slightest swelling of the nasal mucous membrane in this region makes it almost a closed cell, and in contradistinction to the ethmoid cells this cell is lined with mucus secreting membrane. Its drainage will be seen to be very bad, and the result is a sort of vicious circle where more mucus

retained causes more to be secreted. The passage of air nearby removes much of its moisture, resulting in the thick ropy adhesive discharge down the nasopharyngeal wall. Failure to cleanse this area and the application of much ill-timed, ill-advised and unsurgical surgery instead has been largely responsible for the unpopular state in which intranasal surgery finds itself just now. We are indebted to Dr. J. I. Dowling of Albany, who more than twenty years ago gave to the world the Dowling tampon treatment, which will effectively cleanse this area without surgical interference. More than half the cases at a conservative estimate do not need surgery at all, and yet many of them are operated upon. Of those needing surgery many are receiving surgery that is far worse than no attention at all. In children surgery is almost never needed, while in adults polyposis, septal deviation, or turbinal changes may often require surgical correction. Unquestionably surgery of this region should be done only by men of unusual skill and surgical judgment. It is to Haseltine that we are indebted for an explanation of the ethmoid's real part in this asthmatic storm, and it is to him that we are indebted for some real constructive teaching as to just how to handle the ethmoid. Also, under his teaching we have learned that every asthma patient is a complex problem to be solved. He is not just a case of asthma, for his asthma is only a symptom. He is a sick individual, and you will note in your study of the methods employed by Haseltine that the examination attempts to find out as far as possible everything wrong with the patient. Closest co-operation between the internist and rhinologist must prevail, and both must be men specially trained for these cases. Dr. Haseltine has said,—"The handling of the asthma case might well be a model for all other chronic cases, and shows well what we mean by modern specialization." Many failures are due not to lack of co-operation between internist and rhinologist but to inadequate training on the part of one or both, for many if not all failures may be traced to poor technique on the part of someone somewhere along the line. To accomplish the cure of the asthmatic, two things must be done, either one of which may relieve, but both of which will be required for cure; namely, detoxication and removal of irritation from the ethmoid areas. Adam well said in his book,—"The disease asthma is one that until recent years has fallen between two stools, on one of which sat the general practitioner without the special knowledge and skill necessary to examine and treat the nose, throat, and bronchi; and on the other of which sat the specialist concentrating on these regions, but neglecting the general condition of the patient and the dietetic and hygienic errors leading up to the asthmatic state. Far too much attention was paid by both to the most dramatic symptom, the spasm, too little to the conditions preceding and causing it."

Dr. Ralph Kuhns, Chicago: To the remarks of Dr. Myers I want to add that I have been very much impressed by this work started by Adam of Glasgow and Haseltine of Chicago. I have seen a number of

asthmatic children who were not helped until we had help from the rhinologist. I saw some of the work Dr. Haseltine did about ten years ago at Fort Sheridan and the results have been most gratifying. I want to say as a pediatrician that I hope you will co-operate in the care of this disease in children.

Dr. W. D. O'Byrne, Chicago: It was not mentioned that very good results are obtained in local conditions by the use of the ultra-violet lamp, not only locally but by general application. I believe it aids materially in establishing resistance. We know the local use of the Kromayer lamp is very effective. I have had four cases of mastoid disease during the past winter where I did paracentesis and used the ultra-violet lamp, that did not go to operation. They cleared up under treatment with the lamp, both local and large lamp.

Dr. Robert Sonnenschein, Chicago: Asthma is a symptom, as cough and pain are only symptoms, and you cannot treat any condition by merely treating symptoms. There should be cooperation on the part of the internists and pediatricians to endeavor to find the exact underlying cause of this condition. I cannot understand how ultra-violet rays can affect the mastoid region. It was admitted by physicists that ultra-violet penetration of the hard tissues does not exceed one millimeter, but assume that it penetrates two millimeters. Mastoiditis does not mean merely an inflammation of the mastoid process but usually includes destruction of trabeculae. You have an extension of inflammatory process from the middle ear, along the mucosa of all the mastoid cells. Even granting that this inflammation is 2 mm. from the surface it is inconceivable to me how ultra-violet could have any effect.

Dr. Burton Haseltine, Chicago (Closing): Dr. Myers has explained more clearly than anyone has previously done the clinical importance of this ethmoid area, and the reason why treatment reaching this particular spot is so effective. Many disappointments result from failure to understand this point. I have today seen a man upon whom an operation had been made with the hope of relieving asthma, using the technique advised by Pratt of Minneapolis. Without discussing the value of this procedure for other purposes it should be obvious that it is useless to relieve broncho-spasm because it leaves the entire "asthma-genetic area" untouched.

It is extremely interesting to hear from Doctor McGinnis that even bronchial thickening will to some extent diminish following the clearing up of sinus infection. Our own experience has been in some respects surprising. We formerly regarded the asthmatic child with chest deformity as damaged for life. Since we have had a large number of such cases asthma free for a period of years we are able say that even the deformed child when permanently relieved of spasm in time returns to normal. The discussion by other speakers of the value of photo-therapy in mastoiditis is instructive but helps little with the Rhinological Problem in Asthma.



## THE TENNESSEE PLAN FOR TUBERCULOSIS CONTROL\*

EUGENE L. BISHOP, M. D.,

State Health Officer

NASHVILLE, TENN.

Tuberculosis is one of the major health problems concerning not only the State Health Department and other health agencies in Tennessee, but the practitioner of medicine as well. Perhaps no other disease presents a broader and more tangible relationship to general health work, to the practice of medicine and to the social and economic structure of a community than does tuberculosis. Therefore, control practices must comprehend measures that are the joint responsibility of health agencies, practitioners of medicine and the public at large.

There are three important population groups with which we must deal; first, that group not infected; second, persons who have been infected, but who show no symptoms of active tuberculosis; and third, active cases of the disease.

In the first group we are dealing with the younger ages and certainly with persons under twenty years of age. In this age group, we find a relatively small percentage of fatal pulmonary disease, but on the other hand, this fraction of the population suffers the principal burden of other forms of the disease. It is in protection of this age group that is found the principal value of an attempt to break the effective contact with active cases and to provide that health education and health supervision which will adequately protect the child during the establishment of his resistance.

The second group is by far the largest fraction of the whole population and it is from this group that nearly all cases of pulmonary tuberculosis develop. Changes from a state of latent to active infection involve influences embodying economic, social and biologic elements; therefore, any influence tending to elevate our standard of living and at the same time lessen the pressure of life or promote a higher physical state, will contribute to the reduction in the number of active cases of tuberculosis in this group. Thus there is afforded an unlimited field

for health education both in proper living and specific anti-tuberculosis measures.

The third group, consisting of active cases, is of course the smallest of the three groups, but is far too large. In Tennessee, we have very probably not less than 30,000 active cases of tuberculosis and in our program of control practice, there must be provided means by which an early diagnosis and satisfactory treatment may be supplied the largest possible fraction of the group as a whole. Quite possibly early diagnosis is the basic element in these control practices.

From this brief review of the basic elements in the problem of tuberculosis control, it can be readily understood that no program of control can be effective except that it shall comprehend thorough and continual study of the disease, its distribution through the population and utilization of every control facility possible to the practitioner of medicine, health agencies and the general public. Sound practice must forget sentiment and be based upon a sense of value. It must eliminate guess work and apply exact scientific principles upon a basis of relative merit. The disease itself must be regarded as one of the several communicable diseases to which principles of epidemiological study should be applied just as in other communicable diseases. So far as the health agency is concerned the program and the budget must be balanced in the application of the several elements of control practice. We have attempted to approach our problem in Tennessee from this general point of view. Until July 1, 1925, there were no facilities available for use to the State Health Department, the whole appropriation for the Department amounting at that time to \$77,320.00, or 3.3 cents per capita. Obviously, therefore, in our efforts to establish tuberculosis control or control of any communicable disease, it was first necessary to strengthen the state health department and to begin the establishment of official local health agencies. We, therefore, substantially increased our budget to a per capita of 5.25 cents and in a subsequent legislature to approximately 10 cents. At the same time, a Tuberculosis Hospital Commission was created by the Legislature for the purpose of studying ways and means of developing a definite tuberculosis control program. The Commissioner of the State Health Department

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was elected as Chairman of the Tuberculosis Hospital Commission.

The usual practice of states has been to attack the tuberculosis problem from the center but we, in Tennessee, and particularly the State Department of Health and the Tuberculosis Hospital Commission, have deemed it wise to reverse this order and to work from the periphery. Hence, we were first concerned with a thorough study of the distribution of tuberculosis in the State, and under the direction of the Commission a most thorough analysis of tuberculosis mortality was completed. As a result of this study, we know which age groups are suffering the principal force of mortality from the disease; we know the general trend over a period of years, the racial relationship, and approximately, the distribution of the force of mortality in the several major geographic subdivisions of the State.

At the conclusion of this study, the Commission recommended to the Legislature one definite step in control practice and a second angle of study for the second biennium of its work. As a result of this recommendation, a Division of Tuberculosis Control was established in the State Health Department with an appropriation of \$45,000 per annum for the development of field control activities. This Division was also to do the detail work of the second angle of the study, consisting of an analysis of hospitalization facilities and requirements in the State. Direction of the Division of Tuberculosis Control was placed under a trained public health Administrator who was also experienced as a practitioner of medicine, rather than under some one whose training consisted of tuberculosis work only. Our purpose in so doing was to give the activity of the Division a broader scope and a more comprehensive point of view than would have been possible had the Director been trained only in a single element of public health administration. The Division is, therefore, directed by one who can appreciate the point of view of the practitioner of medicine and who can understand the relative values of all control practices in the development of his work. The Division now has a staff consisting of the Director, three Clinicians especially trained in chest diagnosis and an average of four nurses per clinician for organization and follow-up ac-

tivity. Its program consists essentially of case finding, diagnostic consultation, and nurse follow-up service, with the county being used as the unit of local activity.

As a matter of departmental policy, we started this work with a flexible program in order that it might be molded and developed in co-operation with practitioners of medicine under field conditions. The authority to operate in any community, is an invitation from the local medical society with our clinicians acting as consultants to local physicians. A representative of the State Department of Health explains the plan of procedure in advance to the medical society, and whether or not clinics are held in a particular county is determined entirely by the action of the local society. In all instances invitations have been extended by the societies and as of July 1, 1928, clinics will have been held in every county of the State with the exception of the four larger counties which maintain similar services of their own. Clinics are not thrown open to the general public, but are confined to contacts with recently fatal cases and known living cases and to patients referred by local physicians. A public health nurse is sent into the county in advance to organize the clinic under the direction of local physicians. When the cases have been selected for examination and when facilities for the clinic have been organized, a clinician is assigned for one or more days' work. Neither the clinician nor the nurse is permitted to report any finding to the patient nor to advise the patient in any way relative to treatment. Each person examined is required to give the name of his family physician and the complete report of findings is forwarded to that physician. After the clinic, the nurse remains in the community for a sufficient length of time to follow up these cases, first, that they may be placed immediately under the supervision of a physician and, second, that she may assist the physician in securing the practice of such instructions as he may issue to the patient. The nurse presents an order or instruction chart to the physician and takes his dictation relative to the specific regime that he wishes to establish for the particular patient. In the counties where whole-time county health departments are maintained, this work is very much simplified, since



the local nurses can take care of the entire routine with the exception of clinic organization.

During the five months ending March 31, a total of 3,730 examinations were made and of these 822, or 22% of the persons examined, were found positive. An additional 835, or 22.4%, were carried by the records as suspicious and were also referred to their family physicians. The greatest possible emphasis should be placed upon that part of our policy providing that as a health agency we shall act essentially as a case finding agency to provide an earlier diagnosis than would otherwise be made and that we shall establish co-operation with practitioners of medicine who must bear the burden of treatment.

Hospitalization of all cases of tuberculosis in Tennessee is neither possible nor necessary and until we realize that we must depend upon practicing physicians for the treatment of tuberculosis essentially as we depend upon the same group for the treatment of other diseases and morbid conditions, just so long will we delay the institution of a sound program of tuberculosis control.

In connection with our study program, a complete survey of the distribution of physicians and hospital facilities in the State has been undertaken. We have not confined our investigation to tuberculosis institutions, since we are fully confident that we shall never be able to provide hospitalization facilities in the less densely populated areas by the establishment of specialized institutions. This study is by no means complete, but certain of its preliminary findings are worthy of mention here. For instance, we have cause for rather serious alarm relative to the distribution of physicians in the State. We have classified this distribution in six groups, the first of which is the distribution as it occurs in counties with towns of 20,000 population or more and the last being counties with towns of less than 3,000.

In the first group we find in 1927 that the mean age of physicians was 45.4 years and that the ratio of population to physicians is as 525 to 1. In the last group, namely the strictly rural counties, the mean age of physicians is 53.2, and the ratio of population per physician is as 1,204 to 1. In the first group during the ten years from 1917 to 1927 the mean age of physicians

has risen only 3.6 years and the ratio of population per physician has risen only 18. In the rural group of counties, however, we find that in ten years' time, the mean age of physicians has risen exactly 8 years and the number of persons per physician has increased by 404.

Another indication of the study is that as the number of persons per hospital bed increases so also increases the number of persons per physician and the mean age of physicians. Thus in urban groups of counties there is one hospital bed for each 128 persons, as compared to the rural group of counties in which there is one hospital bed to 4,178 persons. It would appear, therefore, that we have a problem more fundamental and far-reaching than any problem concerned with tuberculosis control alone, that we have essentially the danger of being left entirely without medical service for a large fraction of our rural population.

While it is yet too early to indicate the hospitalization policy that will be presented to the next Legislature, we are strongly inclined to believe it must be based on a comprehensive program that will deal with the provision for hospitalization facilities not only for the 10% or less of the mortality for which tuberculosis is responsible, but with the whole institutional aspect of medical service. It would appear that the State should probably co-operate with local governments in the establishment and maintenance of institutions that will provide the tools by which a competent practitioner of medicine may render his patient that measure of service which he has been taught is the right of his patient to expect. Such institutions, however, should not be under direct governmental control but under administrative boards which are organized on principles that have been proven in practice. It should be emphasized that the views here expressed are purely tentative and are subject to such revision as further study of our situation may indicate.

It is realized that in the scope of this brief discussion we cannot present any program in detail. Attention should, however, be called to the fact that a balanced program of control will include the reporting of tuberculosis, a field nursing service, a diagnostic clinic service, and hospitalization for a certain fraction of the ac-

tive cases. In the appraisal schedule for city health work, case reporting, field nursing service, and diagnostic clinic service are given a relative value of 60% in the items mentioned under tuberculosis control. Hospitalization, open-air class rooms, preventoria and day camps are given a total of forty per cent (40%), twenty-five per cent. (25%) being devoted to hospitalization *per se*. This is but added emphasis to the necessity of constructing a balanced program inclusive of all elements in control practice. While the control program of Tennessee is yet in a formative stage, it is from this point of view we are attempting its development.

#### DISCUSSION

Dr. Emmet Keating, Chicago: I want to both congratulate and sympathize with Dr. Bishop.

I want to congratulate him because he is in a place where he will be a pioneer. The road of the pioneer is always difficult and requires stability of character and wisdom far beyond those who follow.

I had a patient who is now teaching school in Tennessee. The other day I had a letter from her in which she told me that the physical director of this school assembled the applicants for membership in the basketball team, had them strip to the waist and the doctor examined them. The next day the board of education called this physical director before them and informed her that they could not do that in Tennessee.

Ever since that famous trial on fundamentalism in Tennessee I have had a good deal of fun with Dr. Olin West, our great general manager of the American Medical Association, about his coming from Tennessee. So I mailed the teacher's letter to Dr. West. Dr. West answered something like this: "Dear Dr. Keating: I have taken a great deal of interest in Miss Blank's letter, but Miss Blank, like so many other people, makes the mistake of coming into Tennessee and measuring Tennesseans by the yardstick of Chicago and Boston."

Now I admire Dr. West's staunch patriotism for Tennessee, but it gave me this thought, that if Tennessee is to progress it must measure with the yardstick of Chicago and Boston.

I was very well pleased with Dr. Bishop's continued reiteration of the policy of sending patients to the family doctor. One of the greatest works that the health departments of any state or any city can accomplish, is to persistently tell the people to go to the family doctor, and to minimize, "If he can't take care of you we will." Then they will have the friendship of the family doctor, they will get farther with their program, they will be doing their public the greatest service.

There are many things on both sides that are irritating. I have been engaged in doing things for the Chicago Medical Society for a good many years, and

I know how difficult it is to move the family doctor. It is hard to get him to do things that we think he ought to be doing, but we should not forget that he is doing many, many things that we do not know, that are of great value. We do not hear of them. So let us be very, very careful and very charitable in our criticism of what seems to be the shortcomings of the family doctor.

There is one thing I try to tell them, that the health departments do for them, and that is, "They can advertise what you have to sell, without any criticism on the part of the public because what they do is not charged for, personally, and if you will try to cooperate with your health department, you will get along fine."

So I wish to extend to Dr. Bishop our best wishes that he keep on in the line that he has indicated in his paper and that he try to get the public in Tennessee to have the same yardstick, so far as health and so far as physical examination is concerned, as we have in Chicago and Boston.

Dr. Benjamin Goldberg, Chicago: Dr. Bishop has covered in his paper those things that are of greatest interest in tuberculosis work at the present time. The doctor comes, as he states, to a State in which the tuberculosis activities are highly developed. Perhaps this high development in tuberculosis work does not exist in all communities throughout the entire State, but those communities which have taken advantage of the most liberal law in tuberculosis work that has ever been passed, have benefited and made progress. The law I refer to is the Glackin Act in the State of Illinois.

The Glackin Act empowers any community, city or county in the State of Illinois to place on a little ballot in that community, the proposition as to whether that community may assess a special tax, the proceeds from said tax to be used in the prevention and cure of tuberculosis.

In Chicago, we have taken advantage of this enabling legislation. We work under the provisions of the Glackin Act, and it will take but a minimum amount of time to go into the activities of the Municipal Tuberculosis Sanitarium, the official tuberculosis organization of this city, which incidentally, is accepted as a standard for tuberculosis work throughout the country. We have done some pioneer work and in recognition of that work, receive inquiries every day from different institutions and individuals interested in tuberculosis work throughout the United States and abroad.

Dr. Bishop mentions the question of the "open case." The State law in Illinois is the most definite law in this country regarding the open case. The law reads that "no child under the age of sixteen years shall live in the same house, apartment or other place of abode or habitation occupied by a person suffering from active or open pulmonary tuberculosis." In the City of Chicago, that law is absolutely enforced; as soon as it is determined that the individual has an active tuberculosis, or as soon as his sputum is found to be



positive, all children under the age of sixteen years must leave that home, or if this is not done, the individual who has active disease is removed, willingly if possible, or if necessary, by force. In the past year, contact between the open case and the child was broken in 942 cases, and as a result of this procedure, 2,154 children were moved from further exposure to infection.

Concerning the field work, Dr. Bishop has gone in the proper direction. We will never, in this country or anywhere else, have sufficient beds to treat cases of tuberculosis in a sanitarium. This means that the major problem of treating the tuberculous patient has to do with the problem of treatment of such patients in the home. In the City of Chicago and its environs today we have only approximately 2,400 beds for the treatment of pulmonary tuberculosis. We have in the neighborhood of 20,000 cases of pulmonary tuberculosis. How can we possibly attempt to treat these 20,000 patients in 2,400 beds. The problem must revert to the home, and the physician must be educated as to the handling of the tuberculous patient in the home. In the City of Chicago during the past year we have carried on very intensive campaigns as to home treatment of tuberculosis, and we feel that these campaigns are producing results.

Our campaign does not rest on the old idea that the public must be educated as to what the symptoms of tuberculosis are; our campaign, on the contrary, rests on the proposition that the physician and the medical student, the physician of the future, must be educated to the fact that tuberculosis must be diagnosed in its early stages. The suspicion of tuberculosis, if tuberculosis is not present, must be removed, and the case must be definitely diagnosed if tuberculosis, so that treatment may be instituted and the patient kept under supervision as far as possible during the entire period of his illness. At our institution during the past year we have instituted extensive changes as far as teaching is concerned. We have converted our entire organization into a vast teaching organization. At the Sanitarium proper, we instruct all the senior medical students of the four Class A medical schools of Chicago, on the subject of tuberculosis. We give them an intensive course in diagnosis, so that when they leave the Sanitarium they have a very definite concept as to what tuberculosis is, and how it is to be managed.

We have furthermore gone into the field; taken the course of instruction to our dispensaries, and in the past three months have taught 110 practicing physicians to become specialists in tuberculosis.

We, with our staff, even though it is large, and even though we examine several hundred thousand patients each year, could never cover the entire problem of field work in tuberculosis. We feel that the family physician, as the doctor states, is the last resort in tuberculosis work; is the bulwark of protection for the community. We feel then that in going out and teaching the diagnosis of tuberculosis to these 110 physicians that we are doing good work, both on be-

half of the community and on behalf of progressive medicine. We do not give a cursory course to these physicians in the field. We take every one of our facilities to them; we take our laboratory; our bacteriological exhibits and our pathological exhibits, right into the community in which they practice, to their doorsteps, as it were. We send our best lecturers to teach the physicians the various phases of tuberculosis work. We have these physicians come into our dispensaries and keep them there for two or three months until they are capable of thoroughly examining a chest and until they are confident of the accuracy of their findings.

We feel that this new teaching experiment already by its success justifies itself, and we feel that in the future we will be, as a result, in much better position to cope with our field tuberculosis problems.

Dr. Bishop (closing discussion): I have very little to add, except to say that we have a rather inquiring turn of mind in Tennessee and in some of the other southern states, certain indications to the contrary notwithstanding.

It may be we have looked over your yardstick and have taken those things which we believe to be of value and left those things which are not applicable to our particular situation.

It may be that you have not looked over our yardstick as carefully as you might, despite the fact that a great many officers from other sections of the country are coming South. The provincial health officer of New Brunswick and his chief deputy arrive today. Dr. Edsal, dean of the Harvard Medical School, and Dr. George H. Bigelow, the commissioner of health for the state of Massachusetts, also the state health officer of New York state, Dr. Mathias Nichol, have come to our section.

I think this is an indication that we are dissatisfied with our yardstick in the South and that we are looking for ways and means of improving that yardstick.

I am proud to say I am a native Tennessean, I am proud of the state, and proud of its progress. You may see certain surface indications that things may not be as well off in Tennessee as in Chicago, for example, but I have never seen a situation such as that referred to by one of the discussors. We are constantly inspecting school children and stripping school children and adults to the waist, and examining them as they need to be examined.

Just one other thought with reference to hospitals. I am glad to find that our attitude is not so pioneer as it is thought or may appear to be, because as Dr. Keating says, the way of the pioneer is hard. I realize that when we took the community as the point of attack, rather than building hospitals as the initial development, we reversed the usual procedure but hospitals constitute the capstone and not the foundation of a tuberculosis control program.

I am glad to hear from one of the other discussors that our view that hospitals will never of themselves solve the tuberculosis problem is after all not a pioneer point of view.

## SPINAL CORD EDUCATION

MARTIN H. FISCHER, M. D.

University of Cincinnati

CINCINNATI, OHIO

## I.

We are all of us inclined to look at the problems about us with the myopia created by the daily job. Hence my excuse for looking at the dogmas of our modern education with the eyes of a biologist or, if you will, of a physiologist.

When young I, too, felt that my mind was not merely the handmaiden but the whole works which did control my daily life. More of this anon, but I confess at once to the shock which came to me when William James stated—I remind you that it was in his talks to teachers—that ninety per cent. of the day's activities lie entirely in the subconscious.

Let me, for purposes of my own, translate that into somewhat different terms. It means, flatly expressed, that we could decapitate the human race just a little above the level of the collar button and not lose much of the totality of its existence. We must, of course, go a little above the collar button in order to preserve the centers for breathing and swallowing, but with those in order, life is fairly complete. Put yet another way, the human existence looked at in the bulk is a life of reflexes, of instincts and behaviors—a life of sensations and "feelings," a life of little more than "loves" and "hatreds."

All that expresses the life of such an individual is equally simple. The received stimulus is answered with the immediateness which characterizes all reflex activity; if the stimulus is obscure, the immediateness of response remains unaltered though we may now gush over the marvels of a heaven-sent instinct. And if we succeed in goading such mechanisms to tears in Red Cross drives or frenzy in Liberty Loan campaigns, large satisfaction may settle upon our "educators," our "educated" and the "civilized."

The reason I state the situation thus dogmatically is because it seems to me that too much of the present day purpose and design in education (in pre-school, primary and secondary school, yes, even in high school and college) aims at no training of any faculty resident above these spinal cord centers. The measurement of

muscle strength, God-given or developed, of reflex time ditto, or of "behaviors" also ditto, does not yet carry us into psychological realms which involve any cranial structure. What difference that spinach may be stuffed into such spinal animals and without vomiting, by side-tracking this normal reflex through bell tinkling, a promise of sweets or a bedtime story? What boots it "education" that behavior "patterns" may be pulled out longitudinally or transversely? It only puts the minor and major sucklings of the human race in the select company of trained monkeys, dogs and other pets. These, too, may be house trained and by identical "methods" of education. Some believe in the rod for the establishment of "good" behavior patterns and some do not. The point is that all pets are trainable—some with a switch and some with sugar candy. The net result, however, still remains something meager. More power, speedier, reflexes and sharper insistence upon the "right" of the individual to his reflexes only make an otherwise tolerable child intolerable—into what a woman of tender heart used to call "small monsters."

When a modern "educator" is asked why such programs have even been thought of, his answer runs invariably that only by such let-alone methods do we succeed in preserving the child's "individuality." Why the haphazard movements of young animals have ever been seen to possess sufficient individuality to interest anyone but the parents I have never been able to discover, but this is the argument which is invariably trotted out in answer to any old-fashioned scheme of "training." Training teaches inhibition and to have a word for this subject in a day when the John Held girl has driven the Charles Dana Gibson maiden to cover is bold indeed. Inhibition "kills" something. When it does not kill, it twists things. That, too, is bad, for it calls for psycho-analysis.

Let me not be thought to be trifling with a serious subject. The contributions of Freud and of many of his successors are monumental and I am not quarreling with them. But it is the followers of Buddha who corrupt the texts so that a new Buddha becomes periodically necessary. And what Freud taught as principle, his educational followers too largely teach as propaganda.

"What is psycho-analysis?" asked one such of



my experienced friend some years ago.

"Well," came the answer, "it's like a garbage can. You dump out the contents and carefully put the apple cores in one heap, the cigar stumps in a second, the lemon rinds in a third and so on until everything is sorted."

"And what then?" asked the interrogator.

"Then you still have garbage."

This tale illuminates a facet which the professional educators too largely miss, what is going to be the final value of what is being educated? Really worth-while material psycho-analyzes itself as life progresses and in this fashion keeps itself cured. If bad examples of the antique do get into the mental house furnishings, a little more view of the living world displaces them by better pieces.

So far as I can see, it is the first function of the condensed nerve substance which has residence above the neck to do the very thing that is so despised—inhibit the vagrant, uncontrolled and, cosmically considered, purposeless reactions of the centers lower down. There is assuredly no need in this already overcrowded world for increase in that purely spinal type of individual who votes every party ticket straight.

Inhibition becomes in consequence a first constituent of character. I know that it is not a primary function of the school to inculcate character, so why stress it? Only because an older generation accepted it as a constant in the educated man and because a new time gives it cheap rating. Honor in a soldier, cleanliness in a doctor, moral courage in a preacher are similar attributes not taught in the professions but accepted as there. Insistence upon their place in an educational program comes only when they are missing.

Inhibition slows the reflex or instinctive response. With it goes, in consequence, a psychic attribute which we may call deliberation. There may now exist also, consciousness. If the deliberation is serious, it constitutes reason. If of several possible expressions one is taken, it constitutes choice. If this is acted upon, it means will; and if the subject deliberately follows the one choice in preference to another or several others, his will is, in this proportion, "free."

It would not be necessary to restate such primer facts in physiology if the modern "psychologically trained" educator or educatoress any

longer kept in mind that the training of these cerebral faculties is the real purpose of teaching, or did not, what is worse, decry the old standards of discipline, long suffering and vague knowledge at least of what we are after and where we are heading.

The children who sit before us even into the "university" years are restive under work demands, restive under any scheme of self-control and the new educator and the parents, of course, instead of laying down the biological law to them join in the general hunt for a new pain killer and a new jujube. Even the nit wits know that a tennis set cannot be won by watching the movies or a race by listening in on the radio. And yet similar trifling is counted upon to develop "brains." Muscular development comes by using the muscles. Can brain development come over any other course?

An old saying has it that "no master ever fell ready-made out of heaven." Obviously the master did something about it himself. Our moderns start from an opposite side. The new-born hope is full of the right or the wrong kind of genes or chromosomes all rarin' to go in their foreordained behavior patterns and woe to a world that does not know how to step aside. But do the masters come that way? And if so, why have teachers?

If a distinction is to be made between men and monkeys, it is largely measurable by the quantity of the subconscious which a higher order of being makes conscious. That man really lives who brings the greatest fraction of his daily experience into the realm of the conscious. It is only upon such foundation that "thinking" becomes possible and all those actions which make for the better as opposed to the meaner man or, collectively the better or the meaner "civilization." Only to this end do we need brains and it is only upon their quality that the planes of society and the orders of the civilizations become finally established.

Where in the school curriculum do our modern "psychologically" versed educators today place training in straight and correct observation? Such observation comes over the route of the five, or six, senses. Athletic coaches in our universities have, of course, long known how to train the sixth sense of icemen to the high degrees of football but where have been the squad captains of the eyes, the hands or the ears? And

who now goes to a university seeking such training?

Sense perceptions brought into the realm of the conscious may be allowed to die there or they may be shuffled about to differentiate the true from the untrue. Men who do this are men of reason. If, from the shuffled evidence, control is taken over the nature of the response, a man of will appears. If now he has the courage to live his decision and his decision be not offensive to a Main Street majority, a good man emerges; but if his decision leaves him with the minority or drives him to eat his own heart, then the great man is before us.

Why, indeed, so long a dissertation upon the obvious? I write it because so much of present day education proceeds in a directly opposite fashion.

I hardly know a father or mother who will permit a child to start school when it so wishes. But school is (or should be) the better gymnasium for the budding faculties. And such gymnasia do *not* produce brain fever even in the very young. The complaint is eternal that the tasks laid upon the children's shoulders by intelligent teachers are too heavy. Let it be noted that strong men do not spring from wheel chairs or men of mental fibre develop out of trust funds.

It is the function of us teachers, we are told, to "interest" the pupil—whether of short pants or long—and while thus off guard stuff the bitter poison of education into its head. Every week brings a parent to ask why we do not teach his boy. The answer is simple. We cannot. Schools furnish apparatus—the pupil must teach himself.

I admit that the apparatus is fitted with too many safety appliances and that there are about altogether too many "safety first" and "watch your step" signs. They are a parcel of what I think the most striking change that has come over the world in my day, a piece of the ever-increasing ration of digestible and predigested material fed the human organism—physically, intellectually, morally. The process ruins hogs which along with slop need roughage.

Why, indeed, has the digestive tract died in so many humans? A large section of the answer may be found in the bolted wheat out of Minneapolis, the sugar out of New Orleans and the hokum out of Battle Creek. May weak knees

be expected to stiffen in student cars, weak intellects upon tales of Santa Claus or weak characters through "get togethers" in bone dry Y. M. C. A.s? Today's "education" too largely thinks so. Need I call attention to the preponderant fraction of literary, scientific and religious summaries, conclusions, reviews and digests fed the student mind? Mentally we are a pap-fed population and no unpeptonized problem may today be thrown at the average "educated" man and not choke him.

How to change the situation and that through the instrument of school instruction is by no means simple and yet the business of fitting God-given material to meet the problems of a going world is the purpose of all education. That school fails which keeps not clearly in mind that it is a laboratory—an institution, in brief, in which the problems of life may be set up in experimental manner and the pupils be so trained in observation, reason, history, courage and action that they are ready to meet and conquer the similar situation when the world presents it outside. The trouble is that the pupil believes the school situation to be a fake and, like a test tube experiment likely to fail in industrial practice. How a teacher may convince his charges that the experiment and life in the outer world are really one is not easily answered. His success becomes a measure, it seems to me, of the intelligence of the pupils—the dull are never convinced until after school as only intelligent men learn by the experience of others.

Out of the situation springs the heavy argument that a month in the business of doing is worth a year in school. I confess to much sympathy with the view. Wherefore my confidence still that some children are better taught out of school by mothers and older children than in school by the dummy products of high pressure colleges of education; and wherefore my suspension of judgment regarding the solely malignant effects of child labor, of apprenticeships and of that practical training which life itself gives. Whenever the harried plants produced in such atmospheres crowd the hot house products of kindergartens, manual training schools, colleges and universities, investigation into the business of formal education is not out of order.

Learning how comes by doing and in no other way; and the process, be it noted, is not pleasurable. An English physiologist showed, some



years ago, that thinking is associated with the same kind of bodily reactions which accompany pain. To which fact I always add the axiomatic corollary that a modern student is not given to hurting himself very much. But laws in nature will not change themselves to suit our pleasure. Mark Twain once wrote a college orator who felt the urge to lecture that lecture bureaus paid no salaries to any who had not served a bitter and financially meager apprenticeship. Let those who do not believe this educational wisdom try the different path.

The time seems ripe for some common sense teacher to rake up again the old saws by which a bygone generation was tortured. "Boys, be ambitious"; "be courageous"; "let conscience guide you." There need to be unpacked again those family gems which radiated about duty, work, self-mastery, honor and silence. The man trained to poise and so to good manners did, too truly, "go out with the livery stable." Some kind of a counterweight seems needed for flapping and flopping, for boredom, spinelessness, headlessness, heedlessness and helplessness and for temper and self-expressiveness which is much self and too little expressive of anything not commonplace. Education seems ready for a new messiah, one not so smart but sound. Let me not be unsympathetic with the new in science—accepting for the moment that modern pedagogy is a piece of it—but the modern decorators of the temples of learning should know what foundations they build upon, if any.

## II.

Each in this world is after something. The masters in education must therefore hang prizes before the eyes of a student world as do the propagandists of other causes. What the exponent of modern education holds up would have looked tawdry to an older generation of teachers. Its ideal is something which may be had without struggle and without pain, which comes undesired and which is fed to the point of surfeit. From toys bought but never made, from pictures printed but never seen, from books reviewed but never read to reflex satisfactions obtained but never earned, the whole educational personnel seems bent upon a single quest, that of discovering what young animals want in order that they may satisfy this want. Were it not so then why so much insistence upon the fixity

of the child's inheritances and its right to their gratification just because it has them? It is the philosophy by which we today excuse pilfering, arson, grand larceny, homicide and murder. To have the instinct for these things is to be justified in satisfying them. Where are the voices in education today which chant any other aspect of the code of sportsmanship, the Golden Rule or the Kantian moral law?

Even in the realms of higher education the rewards of the educatory apprenticeship are not listed in any violently different terms. The professional schools quite openly promise "success." If we are obscure as to the meaning of the word, we need but ask the students. The majority read for inspiration—they publish the fact in answers to open questionnaires—the biographies which the monthly list of "success," "business" and "personality" magazines bring them. Even official university publications find it hard to justify the alma mater's existence in terms which get beyond an assurance that education "pays." And the pay is in the hard coin of the realm. When a covey of millions was recently netted by an institution of higher learning, the divisions of chemistry, physics, biology, medicine, economics, commerce, geography and the foreign languages each pointed out how these millions spent in their particular departments would benefit the cosmic plan. There was no quiver in their apologies. Made composite, they assured a reading world that cold storage products could be studied thermochemically, that they were not entirely unfit for food and that if sold into little known geographic districts they might be made to yield a higher price, with credits guaranteed, provided the local sales force had first managed a pidgin knowledge of the language of the district. In short, more profits were to be made! Perhaps the reader was to supply the corollary that iced fowl would increase the units of human happiness in the backward districts.

In the last analysis what can either "success" or its measure in any quantity of international gold standard units yield even adults which is at all different from what the primary school educators have promised their charges? Does the surfeited organism wish more than three meals, two houses and one bed?

There must be another factor in what education yields else why so much of disappointment in life for those who have made the grade too

successfully? The real profit of education is evidently something beyond the ponderable and the external. Perhaps it is something gained internally but who today is teaching that? To know not the price but the value of things; to know not the ordinary but the extraordinary man; to find happiness, as Descartes put it long ago, not in the continuous satisfaction but in the limitation of desire. What profit in speedier machines, more electric bulbs, more health and longer life save for him who knows what space and light and time mean for a soul?

In the end even the common man knows these truths—at least while young. There were times in history and there are individuals among us today who slay or are slain for a land parcel, for a cow or a shekel. But a nation can no longer be roused to war for such an end. While bankers and pawn brokers may still start them only boys finish wars and they die not for interest coupons but in sacrifice and for romance, honor, glory and the triumph of right. If education played a part in the making of the great of history or of our time, then what are the fruits they have brought us which make us

cherish the tree? As far as I know, none ever gave a weighable thing. Luther and Savonarola, Kepler and Galileo, da Vinci and Donatello, Shakespeare and Dante, Newton and Herschel, Lamarck and Darwin never shook a stock market but they have rattled the teeth of all the dwellers in Main Street, Tennessee and the states of Europe and their political and religious assigns forever.

Some years ago a sparsely populated and arid West needed some spiritual counselors. A bishop asked the new generation for volunteers emphasizing the values of an assured income, a climate good for the victims of weak lungs, and residence in a region where the development curve was mounting steadily. He got none. His successor described a place where an income could not buy anything, where the soft panted for breath, where loneliness was of the order of the day and where men and cattle died of thirst. He got six. Where have gone such older spirits in education who knew and taught boldly that school is an apprenticeship and a hard one for a life harder still and that prayer is necessary not to escape its burdens but for strength the better to carry them?

# IMPERATIVE RESECTION OF AN AB-NORMALLY DEFLECTED STYLOID PROCESS, UNCOVERED BY TONSILLECTOMY

L. P. PIPER, M. D.

CHICAGO

It is not uncommon to note the styloid process in contact with the floor of the tonsillar sinus

after tonsillectomy; but it is rare to find a process, deflected inward and protruding through, but under the sheath of the superior constrictor of the pharynx and interfering with tongue movement. Failing to find anything in the literature about this rare occurrence prompted me to make this report. In more than three thousand tonsillectomies, it is the

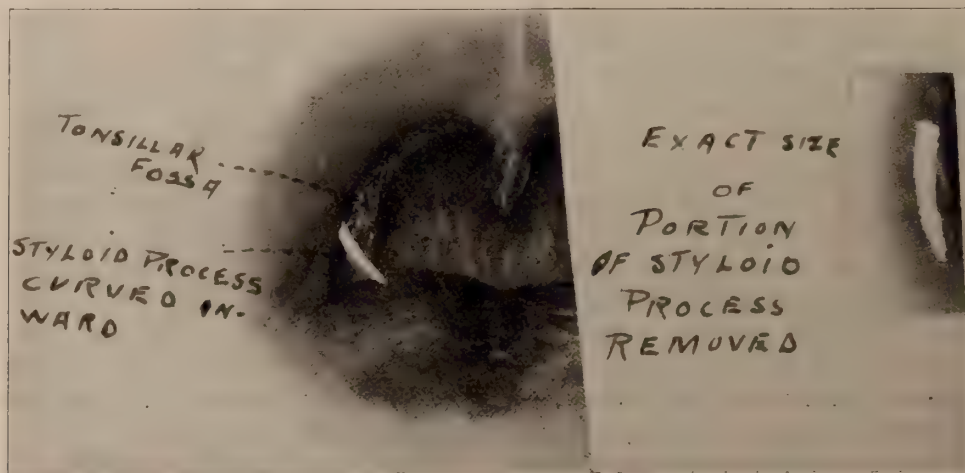


Fig. 1. A. Showing view of styloid before being resected. B. Portion of resected styloid.



first time that I have encountered this condition.

*Report of case:*

Mrs. M——, aged forty-two years, presented herself at hospital for tonsillectomy. Her tonsils were hypertrophic, with large crypts containing cheesy debris and protruding well toward the median line of the fauces.

Under local anesthesia the tonsils were removed by snare after separation of the plica attachments to pillars. Pursuing the routine inspection of tonsillar sinuses with pillar retractor, I observed on the right that the styloid process was curved inward, covered only by the sheath of the superior constrictor of the pharynx. The tip of the process was in contact with the side of the tongue, about one inch protruding through the muscle. The patient was told to move the tongue and this prompted her to complain of something pressing on her tongue. It was very apparent that the styloid process could not be left in this position, because of the discomfort to tongue movements.

A button hole was made over the tip of the process and the muscle pushed outward. With a heavy curved bone forceps the process was amputated as high as possible. An uneventful recovery took place. It might be of interest to mention that the enlarged tonsil acted as a cushion between the tip of the process and the tongue.

1180 East 63rd Street.

# THE RELIABILITY OF THE SCHICK TEST AND THE DURATION OF NATURAL AND ARTIFICIAL IMMUNITY IN DIPHTHERIA\*

C. A. EARLE, M.D.

DES PLAINES, ILL.

It is now 45 years since the discovery of the specific cause of diphtheria; 36 years since Behring first made antitoxin; 21 years since Theobald Smith suggested the advisability of immunizing human kind by toxin antitoxin injections and 15 years since Behring announced human immunization by means of T. A. injections.

Based as this last procedure was on the soundest experimental evidence and effective as it has

been from the beginning, the profession have been dilatory in taking advantage of it.

No one today questions the use of antitoxin in the treatment of diphtheria. The results of the test tube and animal experimentation were quickly seized upon by those clinicians who were alert enough to appreciate what the laboratory had done.

However many hesitated to use it. Many years after the introduction of antitoxin I heard a prominent medical college teacher ask whether antitoxin had really come to stay. The clouds of disbelief in the efficacy of T. A. injections for active immunization against diphtheria still linger in the horizon of many medical men. It is not so long ago, in my enthusiasm, I suggested to a couple of prominent medical men in this city the advisability of immunizing their grandchildren against this disease. After consulting one of the high priests of Pediatrics they declined. However, it was my pleasure later to immunize one of the families. The immediate and almost spectacular effect of antitoxin in diphtheria gradually resulted in its general use. Not so with use of T. A. mixtures in immunization, for the resulting immunity is slow in developing. It takes 3, 4, or 5 months before the maximum effect is reached.

It naturally follows that months and years must elapse before we could say with certainty that the resulting immunity is lasting. Since it is only 15 years since Park began to use T. A. mixtures, that is, at present, the longest period that immunity can clinically be shown to have lasted. As susceptibility to diphtheria progressively diminishes each year after the second year of a child's life, it is not unreasonable to assume that if a child 10 years old is immune he will probably always be immune. However, many do not believe this. It is this uncertainty of the duration of the artificially induced immunity that still makes some of us hesitate to recommend T. A. mixtures. Some say, "If the immunity is of short duration why bother with it at all?" Another word of warning has received increasing support lately. I refer to the danger of sensitizing the child to horse serum. I have records of 19 children who received 5,000 to 20,000 units of antitoxin without unpleasant results after getting 3 T. A. injections.

If the toxoids and anatoxins prove to be as effective as the T. A. mixtures this danger will

\*Address before the Chicago Medical Society, May, 1928.

be obviated. Before addressing myself to the main part of my subject, viz., the duration of immunity I desire to state that, to me, even before Behring used T. A. injections the evidence was overwhelming that such mixtures would in all probability immunize human kind and that such immunity would probably be lasting.

It has often happened that "coming events cast their shadows before," that circumstantial evidence is as convincing as actual evidence. The mathematician Leverrier told the astronomers if they pointed their telescopes to a certain point in the heavens they would find a new planet. They found it as predicted.

To that wonder worker, Theobald Smith, more than any one else, is due the honor of writing the most important chapter in the romance of diphtheria prevention. Smith's experimental work was done on the guinea pig. It should be known that diphtheria in the guinea pig squares exactly with diphtheria in the child. In fact, the guinea pig is the yard stick, the measuring unit of the strength of diphtheria toxin. Without the guinea pig we could not treat diphtheria intelligently today. Laboratory workers the world over had noticed that the resistance to toxin of the guinea pigs used in the laboratory tests varied. In other words, they acquired immunity. To others this was simply an observation, to Smith it was a problem for solution. In violence to the dictum of Behring, Smith showed that the acquired immunity was due to the injection of slightly toxic mixtures of toxin and antitoxin. As early as 1907 he reported that this immunity had persisted for two years. At this time he made that memorable suggestion that human kind might thus be immunized. His suggestion was unnoticed. In 1909 he again suggested that children might be immunized by such mixtures. But the prophetic finger of this medical Leverrier was unheeded until four years later, Behring announced successful human immunization by means of mixtures of toxin and antitoxin. Behring christened the child of Smith's fertile brain "T. A." mixtures.

The guinea pig is much more susceptible to the diphtheria toxin than a child is. Smith showed conclusively that the immunity induced in the guinea pig by such T. A. injection is active and hence probably permanent. To add to

the above evidence it should be noted that Park had used such injections in the horse to speed up the formation of antitoxin in that animal. While experience shows that 3 T. A. injections fail to completely protect 10 to 15 per cent. as far as I know no child has ever died of diphtheria 4 or 5 or 6 months after receiving 3 T. A. injections. Park writes me that he has not heard of a death under such conditions.

I can not escape the conviction that the failure to appreciate and evaluate Smith's experimental work has been a serious handicap in the fight against this disease.

The observations and conclusions in this paper are drawn from a study of over 13,000 Schick tests and about 5,000 T. A. injections done during the past 10 years in an orphanage numbering 1,000 to 1,200 children 4 to 15 years of age.

I regret that I have not preserved complete records of diphtheria occurring before we began this preventive work. I do recall that at one period cases were entering the infirmary every day and it was stopped only after all children were given 1,000 units of antitoxin. During this period I did 9 tracheotomies, 4 of these patients died. During the year 1917 we had 85 cases with 7 deaths. Early in 1918 at the suggestion of Dr. Tonney I gave every child 1, 2, or 3 doses of T. A. We have had but one death since—a period of about 10 years. In no way can this death be charged to us. R. B., 5 years old, was admitted with her 2 sisters to our school October 25, 1927. Two days later she was sent to the infirmary with clinical diphtheria. She was given 20,000 units at once and removed to the County Hospital, where she was given 30,000 units more. This did not save her. She never had been tested nor had she received T. A. injections. Her 2 sisters were found to be Schick negative and did not get the disease.

During all of this period of 10 years more or less systematic testing and retesting has been done, not only of the positive reactors but the negative as well.

In this way it has been possible to observe the persistence of the positive or negative Schick test in the individual child and by correlating the incidence of diphtheria with the immunity status of the child as determined by an antecedent Schick test we have been able to evaluate the reliability of the Schick test as an evidence



of immunity or susceptibility to an attack of diphtheria.

Apparently many believe that immunity is a condition of the hour. That a child may be Schick negative today and next week or next month Schick positive and so on. A study of the test in 2,163 children does not confirm this assumption as the following table shows:

822 children gave 2 consecutive negative Schick tests.  
 309 children gave 3 consecutive negative Schick tests.  
 288 children gave 4 consecutive negative Schick tests.  
 367 children gave 5 consecutive negative Schick tests.  
 194 children gave 6 consecutive negative Schick tests.  
 84 children gave 7 consecutive negative Schick tests.  
 16 children gave 8 consecutive negative Schick tests.  
 4 children gave 9 consecutive negative Schick tests.  
 Only 79 children gave irregular tests.

96.4 per cent. never changed.

3.6 per cent. showed irregular reactions. This is well within the margin of error when you consider the technique, the variability of the toxin used in the test and its interpretation. I have several times tested the whole school with little if any assistance at the rate of 300 an hour. The children are lined up one behind another and supposedly in their proper places. Again and again I have marked a reading only to find that I had read the wrong child's arm.

The following table also supports the invariability of the Schick test and at the same time points strongly to the assumption that children above 4 or 5 years of age who are naturally or artificially immune are probably always immune. Among 631 children tested January 20 of this year

182 were immune for over 1 year.  
 123 were immune for over 2 years.  
 78 were immune for over 3 years.  
 60 were immune for over 4 years.  
 49 were immune for over 5 years.  
 34 were immune for over 6 years.  
 41 were immune for over 7 years.  
 37 were immune for over 8 years.  
 13 were immune for over 9 years.  
 14 changed their immunity status = 2.2 per cent.

A study of 18 cases of clinical diphtheria occurring in 8 different class rooms in the spring of 1923 is also interesting from the standpoint of the reliability of the Schick test. There were 462 children in these 8 class rooms of whom 428 were Schick negative and 34 were Schick positive. Of the 428 Schick negative children only one presented evidences of diphtheria. I believe she was only a carrier. She was discharged cured from the infirmary in 48 hours and did not get antitoxin. Six of the 428 Schick negative children who showed no signs of diphtheria had

virulent diphtheria bacilli in their throats. Of the 34 Schick positive children 17 i. e., 50 per cent. got clinical diphtheria. All were given large doses of antitoxin and all recovered. Virulency tests of 3 showed the organism was non-virulent. This experience leads me to believe that many cases of clinical diphtheria are not true diphtheria. In other words, the presence of a membrane in the throat with fever and cultures which show the Loeffler bacilli do not always mean true diphtheria. It has been known for years that there are atoxic and pseudomembrane forming strains that under ordinary cultural and staining methods can not be distinguished morphologically from the virulent type. At present the usual test for virulency is the guinea pig. A more rapid and practical method of determining virulency is highly desirable. Recently some kind of an electric test has been devised.

#### CONCLUSIONS

The Schick test made with a potent toxin, properly administered and interpreted and not vitiated by a recent dose of antitoxin is a dependable evidence of susceptibility, if the test is positive. Under such conditions a negative test is evidence of immunity to a severe attack of diphtheria. In children above 4 years of age this immunity, whether natural or artificially induced by T. A. mixtures, is probably permanent.

#### EXTRINSIC URETERAL STRICTURES\*

##### URETERAL CONSTRICTION PRESUMABLY DUE TO POST-OPERATIVE ADHESIONS

C. OTIS RITCH, M. D.

CHICAGO

The literature of the past few years includes a number of contributions regarding the importance of ureteral strictures as a cause of abdominal symptoms.

Kelly<sup>1</sup> was one of the first to draw attention to the importance of ureteral strictures as the underlying cause of indefinite pains and troubles for which patients were too often subjected to an abdominal operation without relief. Although Kelly mentioned operative and other traumatisms which resulted in decreasing the size of the lumen of the ureter, yet he more spe-

\*Read before Chicago Urological Society, April 26, 1928.

cifically referred to *intrinsic* strictures due to inflammation in the ureteral walls, caused by the common pyogenic cocci and more frequently by the tubercle bacillus than by the gonococcus.

In recent years others, especially Hunner,<sup>2</sup> have again stressed the importance of intrinsic ureteral strictures. In 71 per cent. of a large series of cases of ureteral stricture, reported by

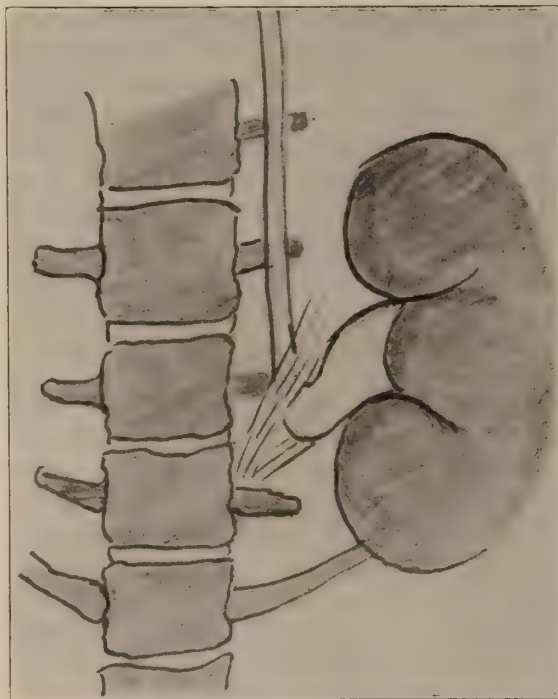


Fig. 1. Peripylitic adhesions. Kidney slightly depressed: Pelvis dilated. (Mercier.)

Hunner, the patients had had some previous abdominal operation for pelvic pain which the operation did not relieve in the very great majority. About one-third of these ureteral stricture cases had had an unnecessary appendectomy.

While not desirous of discussing the unquestioned importance of *intrinsic* ureteral stricture as an often unsuspected cause for abdominal pain and discomfort, in this paper I wish to deal with another phase of the same general condition, based on some personal observations, i. e., *extrinsic* compression of the ureter by adhesions, especially those adhesions resulting from abdominal operations, which cause a narrowing of the ureteral lumen or a kinking of it, with a urinary flow obstruction and a subsequent hydronephrosis to a greater or lesser degree.

This type of lesion has not received much attention in the literature, yet it must be very common and dealt with as an *intrinsic* stricture. Theoretically, there is as much reason for compression and partial occlusion of the ureter by adhesive bands as there is of the small intestine by similar pathologic products; and, apart from direct injuries to the ureters which are not infrequent in gynecologic surgery, it is only reasonable to suppose that the adhesion arising in the abdomen following salpingectomy, removal of ovarian tumors and operations for various other inflammatory gynecologic conditions should involve the ureters as constricting bands.

Although Kelly, as already mentioned, refers particularly to intrinsic ureteral strictures it is significant that in three of the nine cases cited by him the patient had had a previous abdominal operation. One had a large ovarian cyst removed which was adherent to the uterus, bladder, intestines and peritoneal wall. Another had been operated on for extensive pelvic inflammation; the right ureter had been clamped during the operation and this ureter produced the later symptoms of stricture. In the third case the ureter was found at a secondary operation to be buried in a mass of inflammatory tissue. After having been freed the symptoms disappeared. In his conclusions Kelly says that "freeing the ureter from a bed of inflammatory tissue by dissecting it out is occasionally sufficient." This, however, is clearly not the pathology of an intrinsic stricture.

Watt,<sup>3</sup> who also considers that ureteral strictures are due to "some intrinsic inflammatory condition of the ureteral walls producing a narrowing of the ureteral canal," yet gives his opinion that in a great many of these cases there is pelvic pathology associated with the stricture.

Wharton,<sup>4</sup> discussing a paper by Kretschmer on ureteral dilatations, mentions ureteral obstruction due to pressure of the surrounding tissues such as scar tissue in the pelvis. Norris,<sup>7</sup> also mentions having seen two obstetrical cases of high forceps operations with deep tears which produced adhesions, kinks, and traumatic stricture relieved by ureteral catheterization.

Mercier,<sup>5</sup> in 1925, specially described the perirenal and juxtapyelitic adhesive bands which were causative of ureteral constriction, and especially those occurring in the proximal portion



of the ureter. Mercier gives short histories of 14 cases in all of which such adhesions were found at operation. It was impossible to say if these were of congenital or inflammatory origin. Mercier believes that in some cases they were congenital, corresponding with a Jackson's membrane about the cecum. In some cases those membranes, under the influence of inflammation or congestion, had become thick and fibrous. But the presence of such a constricting band alone does not, according to Mercier, suffice to cause a dilation of the kidney pelvis. Some amount of descent of the kidney is necessary in order to complete the mechanism for kidney pelvis dilatation and hydronephrosis. This is not ordinary movable kidney but merely a descent of from 1 to  $1\frac{1}{2}$  c.m. due to some unknown cause. The proximal portion of the ureter, being immobilized and fixed by the adhesions, the pelvis, which normally is continuous with the ureter in an oblique line, becomes horizontal and thus a pouch is formed, in which urine collects, and this weight further tends to pull down the kidney, thus accentuating the condition. The resulting minor hydronephrosis may be more painful than a larger hydronephrosis. This condition will be better understood from the accompanying rough sketch. (Fig. 1.)

In two of Mercier's cases there had been a previous pelvic operation. One patient had a bilateral ovariectomy two years before and the other had a previous nephropexy.

Mercier's theory of extrinsic constriction of the ureter seems quite plausible and I see no reason why it should not include all post-operative adhesions which fix the ureter in position or which surround the ureter and constrict it. In the first case any slight downward dislocation of the kidney would suffice to cause a kink in the ureter and prevent the passage of a catheter or at least only with more or less difficulty; further, there would also be a hydronephrosis the degree of which would depend upon the amount of kinking and constriction.

Kinking and constriction of the ureter with more or less hydronephrosis might therefore be considered as arising: (a) from congenital causes; (b) from adhesions arising from abdomino-pelvic inflammations fixing the ureter in position especially close to the kidney pelvis; (c) post-operative adhesions having the same

effect. All these causes being more or less associated with some amount of descent of the kidney.

I have had five personal cases which seem to me to fall in with the foregoing conception, all five, however, being the post-operative type following pelvic gynecological operations, and be-



Fig. 2. 30 c.c. of opaque medium in each; neither distended the pelvis nor elicited subjective symptoms of full pelvis.

ing dependent, I believe, upon constriction of the ureter by post-operative adhesions.

In none of these cases could any organic lesion or other cause be found which might directly account for interference with the urinary flow.

Short histories of these five cases are as follows:

#### CASE REPORTS

Case. 1. Mrs. M. C., aged 25 years, white, American, housewife. Examined May 6, 1927.

*Past History:* Irrelevant except for pelvic operation September, 1923, by an excellent surgeon. A cyst was removed from each ovary, the appendix being removed as routine. Patient made an uneventful recovery.

*Present Illness:* Complaints of pain in the left side and left lumbar region. Occasional urinary frequency and dysuria. The operation previously referred to had been performed for relief of severe pain in the lower abdomen which occurred during menses only. Following the operation patient was free from pain and enjoyed good health until February, 1925, when she

experienced severe pain in the left lumbar region, radiating forward and downward over the course of the left ureter. A diagnosis of renal colic was made. She had burning and increased frequency during the attack; but was able to be up after a week in bed. Patient had five subsequent attacks. During the intervals pain might be entirely absent for a few days or even two weeks. But minor exertion induced a dull ache.

*Cystoscopy:* Ureteral catheterization and dilatation has been done eight times. At first a No. 5 or 6 catheter could not be passed on either side farther than 4 or 5 c.m. until after a filiform bougie had first

right ureter. During this attack patient had much burning and was voiding every twenty to thirty minutes.

After about ten days the symptoms subsided and patient was free from any difficulty for several months. Then a second attack occurred, less severe than the first. Patient has had a number of attacks since. The last, from which she is recovering, was again severe and of eight days duration.

*Cystoscopy:* Revealed a moderate generalized cystitis. The left catheter passed without trouble. The right ureteral orifice was gaping and retracted. After considerable difficulty an obstruction was passed about eight cm. from the bladder. A pyelogram (Fig. 3) was made with 27 c.c. of opaque medium in the pelvis. There is dilatation of the pelvis and clubbing of the calyces. The pelvis was however not completely distended.

Case 3. Miss J. M., aged 36 years, white, American.

*Past History:* The essential factor in her past history was an operation for fibroid of the uterus in 1925.

*Present Illness:* Began about six months ago. This started with dull aching pains in the small of the back. The pains did not radiate and had not been severe but they were quite troublesome when she remained on her feet many hours, which she frequently had to do in her work. Fatigue and worry make the pains more noticeable.

Urologic study revealed an obstruction of the right ureter about 4 cm. from the orifice and moderate dilatation of the right kidney pelvis.

Case 4. Mrs. R. E., aged 31 years, white, American, housewife.

Examined May 24, 1927.

*Past History:* Unimportant except for operation two years ago when she had a bilateral salpingectomy.

*Present Illness:* Two weeks ago developed a sharp pain in the left side just below the ribs which radiated downward to the left thigh. The pain is now gradually becoming less, but is still sufficient to give her much concern. Patient thinks her urine was blood-tinged several times during the past two weeks.

Urologic study revealed an obstruction of the left ureter 7 cm. above the uretero-vesical junction.

Case 5. Mrs. M. G., aged 41 years, white, American housewife.

*Past History:* Irrelevant except for pelvic operation three years ago. She thinks a suspension of the uterus was then done.

*Present Illness:* Complains of pain in the right side of abdomen. It does not radiate and covers nearly the whole of the right side anteriorly. The pain started seven months ago; rarely severe, but rarely also is she entirely free from a dull pain in this region.

Urologic study demonstrated an obstruction of the right ureter about 5 cm. above the bladder.

In addition to these constriction cases, presumably due to post-operative ureteral adhesions, and the post-operative constriction cases reported by Kelly and Mercier, I may mention



Fig. 3. Obstruction of right ureter. Pyelogram shows dilatation of pelves.

been passed. Regardless of the size, all catheters or bougies met distinct obstruction at these points. After passing the obstruction with difficulty about four ounces of clear colorless fluid usually drained away. The pyelogram (Fig. 2) was made after 30 c.c. of opaque medium was injected into each pelvis. This elicited no subjective symptoms; no effort was made to further dilate the pelvis. Neither pelvis was distended despite the large quantity of medium (30 c.c.) injected into each.

Case 2. Mrs. L. S., white, American, widow, aged 38 years. Examined May 15, 1927.

*Past History:* Operated on bilateral pyo-salpingitis, in 1923.

*Present History:* Complains of severe pains in the right lumbar region and right side, urinary frequency and dysuria.

Pain was noticed first in the fall of 1924 at which time it was severe and radiated over the course of the



here the case reported by Richardson.<sup>6</sup> In this case one week after a difficult panhysterectomy a leakage of urine was observed. The leakage was found to come from a small fistula which it was hoped would close spontaneously. The patient came again to the hospital five months later and on investigation the fistula was found involved in an extremely dense mass which had so narrowed and distorted the ureteral lumen as to absolutely prevent the passage of any type of catheter or bougie.

It is possible that in many abdominal and pelvic operations where there is a slight traumatism to the ureter this may not close spontaneously, but may, as in Richardson's case, give rise to peri-ureteral constricting adhesive masses.

The clinical symptoms arising from an extrinsic constriction of the ureter are practically the same as those with an intrinsic stricture. These are particularly constant dull pain in the lower ureteral region, pains in the hip and referred down the leg, gastro-intestinal symptoms and general malaise. In most of these cases the urine will be found normal.

The condition must be thought of when there is no evidence of calculus or other lesion which would account for obstruction of the urinary flow. Also when there is a history of previous abdominal operation or of any inflammatory condition which might involve the ureter by adhesions.

The possibility of periureteral constricting adhesions following abdominal, especially gynecologic, operations should put surgeons especially on their guard to avoid the ureters and their vicinity as much as possible in executing such operations: on the other hand should the opportunity offer, the surgeon should endeavor to discover if any periureteral adhesions are present and remove them. The rule in abdominal operations should be to avoid the least traumatism to the ureter and vicinity and obviate the formation of periureteral adhesions.

In treatment, although progressive dilatation of the ureter may give relief, as in my own cases, this cannot be expected to give a permanent cure, or to be any more than palliative. It is a source of satisfaction, however, to the patient to know that the symptoms although painful do not arise from any very serious lesion.

When the pain is intense and palliative measures fail, the only course left is to dissect the ureter from its surrounding adhesions.

#### SUMMARY

1. In addition to intrinsic ureteral strictures properly so-called arising from inflammatory conditions within the ureteral canal there are extrinsic factors which can cause constriction of the ureter and obstruction to the flow of the urine.

2. External compression of the ureter arises principally from adhesive bands due either to congenital causes, to abdominal inflammatory conditions or to post-operative adhesions.

3. If the kidney in addition is slightly displaced downwards the constriction may be accompanied by hydronephrosis.

4. Five personal cases of ureteral obstruction are reported which followed gynecological operations and which are believed to have been caused by adhesive bands constricting the ureter.

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5 South Wabash Avenue.

#### THE TREATMENT OF SIMPLE FRACTURES\*

T. ARTHUR JOHNSON, S.B., M.D., F.A.C.S.,  
D.N.B.

Chief Surgeon, Swedish American Hospital

ROCKFORD, ILL.

The treatment of fractures is without doubt the oldest treatment rendered by one human being to another. Fractures occurred in the earliest races of man, and it did not require a high degree of intelligence or sympathy for one person to assist another in relieving pain and helping to overcome such a disabling injury as a

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badly fractured leg. The tragedy of the instantaneous crippling of a strong person in action, the shock, pain, mortality, long disability and frequent permanent impairment of usefulness resulting from major broken bones, must have enlisted the skilled healers of all ages.

Today, after the great advances in the treatment of fractures, which have grown out of the experiences of the world war, industrial liability compensation, modern aseptic surgery and the studies of several fracture committees, there is still some disagreement as to the proper treatment, and several of the authorities are distinctly at variance in many fundamental principles. While the closed treatment of a large percentage of uncomplicated fractures has been fairly well standardized, agreement on the open treatment has not been attained.

This most important field of surgery was turned over to the junior interne or given very indifferent care by the general practitioner a few years ago. At the present time, it is being given the most careful study and diligent care by some of the most able men in the profession. The exact knowledge of anatomy, physiology, asepsis and mechanics required for the proper treatment of a single fracture, is greater than that necessary for the surgical treatment of a simple case of appendicitis. Compare this with the knowledge necessary to treat all the different types of fractures of all the bones of the skeleton. Take, for example, the multiplicity of possible fractures of a single bone, as the femur, fracture of the anatomical neck, surgical neck, upper, middle and lower thirds, supracondylar, external and internal condyle, T fracture, transverse, spiral, oblique, comminuted, compound; such complications as injuries to the joints, nerves, muscles, arteries and veins; hemorrhage, infection, mal-union and non-union, and the many necessary details for the ideal care of the numerous combinations of injury to which a single bone is subject. Add to this the fractures which might occur to all the bones of the body, and you can visualize the magnitude of this subject.

**Reduction.** The first important consideration in the treatment of fractures is reduction. By reduction of a fracture, we mean the restoration of the broken and displaced ends to as near their former or anatomical position as possible. Absolu-

te exact anatomical restitution is an impossibility, and even an open operation can only approach this ideal. In most fractures of the shaft, a practical and satisfactory reduction consists in bringing the fractured fragments into such positions that one-half or more of the fractured surfaces are in apposition, that there is no appreciable shortening of the bone, and that there is practically no angulation or rotation of the limb. Very little angulation is permissible in fractures of the leg, because angular deformity changes the axis of the joint, and this produces considerable disability in weight bearing joints. Shortening of the lower limb of one or two centimeters is corrected by tilting the pelvis, and in children by growth of the femur.

In fractures involving joint surfaces, it is more essential to get accurate replacement of fragments. However, even here slight displacements are not incompatible with complete functional restoration. A partial permanent loss of motion at both extremes of motion of most joints is of little practical importance, as nearly all necessary work can be done without the extreme ranges of motion with which the joints are endowed.

The fracture should be reduced as soon as possible after it is seen. The more time that elapses after the injury occurs, the more difficult and less complete the reduction will be. Blood pours out and coagulates about the fractured ends and torn soft parts, the surrounding muscles become infiltrated and edematous, and muscle spasm becomes more marked. Delayed reduction by manipulation does additional damage to tissues already greatly traumatized. After the lapse of a few days, some fractures may become irreducible except by open operation.

Reduction may be done by manipulation of the broken ends, and manual traction and countertraction, aided by the x-ray, and the normal contour of the other limb. In some cases angulation is necessary and may be the method of choice in Colles' fracture and transverse fractures of the femur, humerus, and both bones of the arm and leg. Reduction may be accomplished by continuous traction in oblique and spiral fractures of the femur, humerus, and both bones of the arm and leg. It is also of distinct advantage in some metacarpal, metatarsal and phalangeal fractures. Whenever possible, the



fluoroscope should be used to check and guide every step in the reduction.

Fractures should be x-rayed before and after reduction. Anterior posterior and lateral views should be taken. If this is not possible, two views at right angles to each other should be made. Where two views cannot be taken in these positions, stereoscopic skiagraphs should be obtained.

The continuous traction method of reducing and immobilizing fractures was popularized by Buck, Bardenheuer, and Thomas. This is the method of choice in spiral and oblique fractures of the leg and arm. When the traction method is used, the bones should be manipulated into good position under the fluoroscope and heavy weights applied at the outset, and gradually reduced as indicated. The mobile x-ray unit, the Thomas splint and the Balkan frame have become indispensable in the proper use of this method.

Traction may be obtained by adhesive plaster applied well above the line of fracture with a weight and pulley attached to the distal end to produce the pull. Rubber bands with one end fastened to the end of the splint, and the other to the adhesive, constitute a very convenient method of applying traction to the leg, arm and fingers. The pull exerted by them should be measured frequently by a spring scale. I have not found the Spanish windlass as reliable as either the weights or the rubber bands for maintaining steady traction.

When both bones of the leg are fractured near the lower third, the Sinclair skate has the advantages of allowing a large skin surface for traction, a good control of the rotation of the foot, and a reliable support for keeping the foot flexed at right angles to the leg.

In fractures of the lower third of the femur, and in fractures too near the ankle joint to be held by skin traction, direct skeletal traction should be used. This is applied to the femur by means of metal calipers placed just above the femoral condyles; and to both bones of the leg, by fastening the calipers into the malleoli; or by putting the Steinman pin through or over the os-calcis. Skeletal traction is also of great value in compound fractures and fractures associated with extensive wounds of the skin. When frac-

tures of this type are suspended in a Thomas splint and the Pierson movable leg rest, the wounds can be easily treated and dressed. Early mobilization of the knee can be instituted in fractures just above this joint. Skeletal traction is easily applied under local anesthesia, and by its use many patients will be saved the larger open operation.

*Immobilization.* After the fracture has been reduced, the next important step in the treatment of most fractures is to immobilize or fix the broken ends in contact. While it may not be essential to completely immobilize the fragments, it is necessary to keep the ends from moving enough to disarrange or damage the tender regenerating tissues. The proper management of the muscles, adjacent joints, and the remainder of the body, requires just the opposite treatment, namely, early mobilization. The old method of treatment was to apply splints of padded wood, plaster or other rigid material closely enough to immobilize the broken limb, including the joints above and below the point of injury.

With the newer conception of early movement of the muscles and joints, apparatus has been devised to facilitate early massage and motion of the joints without interfering with the immobilization or alignment of the fractured bone. Such apparatus as the Thomas hip and arm splints, the Pierson movable leg rest, the Jones arm splint, and various methods of applying traction, have been introduced in recent years to overcome the apparent paradox of simultaneous mobilization and immobilization.

These splints have several advantages over plaster or other rigid splints.

1. The fractured limb can be inspected frequently, wounds dressed or massage given from the first day, without disturbing the alignment of the fractured bone.

2. A considerable number of fractures can be reduced and immobilized without the need of an anesthetic.

3. The distal portion of the broken limb can be more easily brought into the optimum position for fixation whether it be for recovery of function, ankylosis or muscle balance.

4. Deformity can be easily corrected within a period of several days after the occurrence of

the fracture by slight mechanical changes in the apparatus.

5. More freedom is allowed the patient, because the amount and direction of the traction is the same, regardless of the position of the patient.

6. In fractures of the femur, motion may be allowed in all joints of the leg from the first day of treatment.

7. Traction reduces pain by overcoming muscle spasm, and immobilizing the fragments.

*Suspension.* If it is necessary for the patient to be confined to the bed, the splint should be suspended by counterbalancing it by means of weights and pulleys attached to an overhead frame. This allows the patient considerable freedom and activity without disturbing the injured limb. It also greatly simplifies the nursing care of these patients.

The *plaster cast* is one of the most useful splints for fractures about the ankle joint, transverse fractures of a single bone of the leg, and the Whitman abduction treatment of fractures of the hip. It can be easily applied, fits the parts perfectly and holds the parts firmly in the position in which they are placed. When used in fractures where much swelling occurs, it should be split immediately after it is applied, and bivalved later for early passive motion of the adjacent joints. It has the advantage of allowing early protected weight bearing in fractures of the leg.

There are a large number of inexpensive light metal splints moulded to fit certain portions of the limbs for special fractures. The aluminum splints for Colles' fracture can be easily padded to fit the special contour of the arm. The chief advantages of these splints are their comfort, economy, ease of application and removal for physical therapy.

*Physical Therapy.* The physical therapeutic measures of greatest value as adjuncts in the treatment of fractures are the following: passive and active motion, massage and graduated protected weight bearing. The local application of heat, such as diathermy, baking and radiant heat, are used to increase the circulation, and decrease the discomfort during the passive and active movements.

Very light superficial massage of the soft parts about the fracture should be used from the

first. It alleviates the pain, decreases spasm and swelling, and helps to maintain a good circulation; as union becomes more firm, deeper and more vigorous massage may be used.

Gradually increasing passive movements of all the joints of the limb in all of the directions and ranges of their normal mobility, should be started as soon as the condition of the fracture allows, without interfering with the immobilization of the fragments. This should be started immediately in incomplete fractures, very early in fractures immobilized by traction, and always early in fractures involving joint surfaces. This should be continued daily for several weeks or months until full range of motion returns, or until no additional mobility can be gained.

Assisted active motion should be started a little later, and active motion should be encouraged as soon as union is fairly firm.

A greatly neglected period in the treatment of fractures of weight bearing bones is that period between the establishment of firm union and complete weight bearing. We have found that carefully supervised gradually increased protected weight bearing is of great value in fractures of the lower limb. As soon as union is firm, and the patient is allowed to walk on crutches, a few pounds of his weight is borne on the convalescing limb. Each week the surgeon should have the patient step on the scales to determine how much pressure he can put on the affected leg without pain or discomfort, and then the patient again balances the scales at 20 to 50 per cent. less, so that he can judge just how much weight bearing he is allowed during the following week. Each week a few pounds more are added until his full weight can be borne on the affected leg. After a few weeks one crutch is exchanged for a cane, a little later the other crutch is discarded, and soon after his leg tolerates full weight bearing, the protecting cast or splint may be discarded together with the cane. If this stage of the treatment is given the careful attention it deserves, many of these patients will have a more rapid calcification of their callus and will be able to return to their duties in shorter time, and with less permanent impairment of function.

*Operative Treatment.* If the treatment of every fracture is approached with the same enthusiasm and given the same meticulous and



detailed care as the modern bone operator gives his operative cases, a very small percentage of simple fractures will require open treatment. The routine operative treatment of simple fractures is not at present justified, regardless of the surgeon's technique or completeness of armamentarium. Only when the dangers incident to anesthesia and major operations have been completely eliminated, will this be justified. One clinic reports the return of one hundred consecutive cases of fracture of the femur to their former duties with good function after conservative treatment, and another clinic reports the same results after one hundred major operations, plus several minor operations for the removal of plates. Admitting the unusual qualifications, team work and technique of a few bone specialists and hospitals, these results do not speak in favor of routine open treatment, even in these few advanced surgical centers. Granting that the convalescence can be shortened one or two months, the dangers incident to anesthesia and the other hazards of major operations even in the best hands, more than counterbalance the slight advantage.

There are, however, a small percentage of fractures in which operative treatment is indicated. Several types of fractures, like fractures of the patella with separation, fractures of the olecranon with separation, and fractures with interposed soft parts, should be operated on routinely, if the general conditions are right.

There is a larger and more varied group of fractures in which it soon becomes apparent that in spite of several attempts at closed reduction, good results will not be obtained. In these, operation should be carefully considered. Do not operate unless you are certain that considerably better results can be secured by open treatment, than you or some near colleague, versed in modern conservative measures, can get by the latter methods. I do not believe we are justified in operating, unless we are fairly sure of getting results enough better to counterbalance the added danger and anxiety of the surgical operation. Infections, followed by more or less functional impairment, may develop in spite of the very best technique. It is difficult to sterilize the skin. The vitality of traumatized soft parts and fractured ends is low, and extravasated blood offers an ideal culture medium for bacteria introduced directly or through the

blood stream. Destruction of bone, impairment of function of nerves, muscles and joints, and non-union frequently follow.

On the other hand, the operative treatment of fractures has many advantages. In doubtful cases, the fractured ends can be more easily replaced under the guidance of the eye. Cases in which the fragments do not remain in apposition can be easily fixed in position; interposed soft parts can be removed early and extensive injury to the soft parts repaired.

Operations for old fractures are indicated where there is considerable functional disability, such as is found in mal-union, non-union, pseudarthrosis, and loss of sections of bone. In correcting angular deformity in mal-union, the bone may be straightened after osteotomy, or the deformity may be excised, and the gap filled by an autogenous massive bone graft or an inlay graft. The after treatment should be the same as a simple fracture of the same kind.

Un-united fractures should not be classed as cases of non-union, until every effort has been made to secure union. The autogenous inlay graft or the massive bone graft gives good results in these cases. The ends of the bone should be refreshed and the grafts should be fixed in place by bone screws, kangaroo tendon, or other absorbable material. Non-absorbable fixation material is less favorable to callus formation and is more likely to become infected.

The autogenous massive bone graft is the best means we have of bridging a gap in the shaft of long bones, where considerable strength is required of the internal splint. In smaller bones, like the radius, the autogenous inlay graft, as used by Albee, is just as good. The graft is taken from the tibia and accurately fitted in grooves cut for it in the fractured ends of the radius, and the pieces of bone removed in making the grooves are used to fill the remaining space between the separated ends of the bone. This consolidates into a section of firm bone, effectively bridging the gap where the bone has been lost.

No internal splinting material should be used, unless it is necessary. If external fixation is not likely to keep the fracture properly immobilized, internal splinting should be resorted to. If the proper use is made of absorbable material, such as: chromic cat-gut, kangaroo tendon, beef-bone and ivory plates and screws, and autogenous

bone grafts, the more objectionable hardware so much used in the past will very seldom be necessary.

### DISCUSSION

Dr. Edward H. Ochsner, Chicago: In connection with fractures of the cervical spine, I think there is one point that was not brought out and which should be stressed very strongly, namely, the mere fact that paralysis is present from the very start is no evidence that the cord has been severed. I have seen at least three cases and operated on them where the diagnosis of rupture cord was made on the basis of immediate paralysis where the patients went on for several years and then insisted on operation to see what was the matter. At operation it was found that the cord had never been torn. Cases of this kind are very unfortunate if they get into the hands of a timid surgeon. It takes a good deal of courage to tell a patient after he has been injured and suffers from immediate paralysis that he should submit himself to operation. The chances for success are very slight because a considerable portion of them are ruptured. There are some of them that I am confident could be saved from the terrible fate which is theirs if they were not relieved, if they get into the hands of a courageous surgeon. They are cases where courageous work is necessary. If I were to see a patient today or tomorrow three hours after an injury with complete paralysis, I would tell that patient's friends very frankly that I thought there was not much hope in the operation but that one should be done nevertheless.

Dr. F. W. Anderson, South Bend, Wash.: I would like to ask Dr. Johnson why he practiced passive motion instead of active in the beginning. It seems to me if you are afraid of displacing your fragments you are more apt to do it with passive than with active motion. I would like to ask him how soon they begin motion and how soon he takes them down. We take them down on the third day and give active motion three times a week from then on. Of course, I am not speaking of fractures of the femur; I am speaking of the arm.

Dr. T. A. Johnson, Rockford (closing the discussion): In answer to Dr. Anderson's question, the reason we use passive motion instead of active motion early is that when the doctor uses passive motion the amount of that motion depends on the judgment of the surgeon. He takes hold of the limb and moves it. When you ask the patient to move his limbs he uses the muscles and his judgment is not as good as the surgeon's. Very slight motion is used at first, holding the arm at the point of the break. This is the reason we use passive instead of active motion first. Later we use passive motion with a little more force.

In regard to the time we start motion in fractures of the arm, Colles' for instance, we begin slight motion at the end of the first week and sometimes even a little earlier; if there has not been much displacement and there is just a partial break we start on the second day and continue for about six or seven weeks.

### DIVERTICULA OF THE STOMACH\*

P. B. GOODWIN, M.D.

Radiologist, St. Francis Hospital

PEORIA, ILL.

As there appears so little in radiological literature regarding diverticula of the stomach, I felt it proper to bring before this section some of the signs and symptoms observed in this lesion. While diverticula of the stomach are probably rare, they may be more common if we observe those cases that perhaps have a vague history by a routine gastro-intestinal study of the barium meal.

From my observations of gastro-intestinal cases, this is my first diverticulum of the stomach. The more frequent diverticula are those of the urinary bladder, colon, and esophagus, while less frequent of the duodenum. It may be that diverticula of the stomach have been observed by others without reporting; if so, I should enjoy hearing from them.

If this paper will bring to the clinician the importance of radiological study in vague gastro-intestinal cases, he and we may be able to learn more about diverticula of the stomach. So far it is wholly up to the radiologist to make the diagnosis. Most of the cases reported in literature have come through the German. Ackerlund of Stockholm has reported several cases, one of which resembles the case which came under my observation.

Diverticulum of the stomach may be an incidental finding and unassociated with any gastric symptoms. Those cases of the esophagus, colon and bladder fortunately are followed to the operating table and the radiological evidence is substantiated, but in the case of diverticulum of the stomach the surgeon was unable to detect the pathology, probably because of its high location and the stomach not being opened.

The term diverticulum of the stomach refers to a circumscribed, more or less rounded pocket, or bag-shaped, mucosa-covered protrusion from the lumen of the stomach. Diverticula of the stomach are divided into two types: true and false. Ackerlund divides them into congenital and acquired. The *false* is due to the protrusion

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of the mucous membrane through a tear in the muscular coat; the *true* is due to the protrusion through the entire intestinal wall. The *congenital* are those existing from birth or those which have gradually developed, owing to a congenital disposition. The *acquired* may be from various causes, such as pressure due to swallowed voluminous foreign bodies, or different kinds of trauma which have brought on a rupture of the muscular coat (post-operative diverticula belong here), or different kinds of tension, or traction of certain areas of more or less fixed portions of the stomach, so-called traction diverticula. Strictly following the definition of a diverticulum, any out-pocketing from the stomach as shown by giving barium meal to a patient, should be spoken of as a diverticulum. This should include penetrating ulcers or ruptured gastric ulcers which have become walled off, and we must attempt to differentiate them.

In all the cases reported I find that they were located either at the pyloric or cardiac end of the stomach. In 1910 Keith of London reported two cases, both of which were located at the cardiac end; one was just below the entrance of the esophagus. In 1923 Emery of Peter Bent Brigham Hospital, Boston, reported two cases, which also were located at the cardiac end of the stomach. Gray of Brooklyn, New York, lately reported a case which was accidentally found in his routine examination and this, too, was located at the cardiac end.

*Etiology:* This is still a question, but according to Sir Arthur Keith's belief, the wall of the stomach is weak all around its junction with the esophagus, so that under certain conditions a pouch may develop at some point in this location as a result of increased intra-gastric pressure.

The lesser curvature in the region of the cardia appears to be weakest point of the entire gastric musculature, hence more are found in this region, and at the beginning of the lesser curvature or as called the cardia-esophageal junction. This part is subject to pressure by the entrance of food into the stomach, which is verified by the manner in which the barium meal enters the stomach; so we can readily see why, with increased intra-gastric pressure, a diverticulum can arise in this region.

Ackerlund of Stockholm, who has perhaps done more study of this subject, calls attention

to the fact that diverticulum of the stomach may occur with or without ulcer formation, and under his division of congenital and acquired diverticula, he finds that the congenital occurs near the cardia, and the acquired at the pylorus. In his report of 5 cases, 4 were true organic and one operative, following a gastro-enterostomy.

*Symptomatology:* There may be many symptoms, but few are referred directly to the diverticulum, as they can be explained by other pathology. Before I report my cases I wish to mention some of the symptoms which were noted in some other reports. These symptoms are independent of any that may be caused during or following the barium meal.

*Case 1.* Female aged 29, complained of periodic ulcer trouble for many years.

*Case 2.* Female aged 53; flatulence trouble for many years, at times pains in epigastrium, nervous, no ulcer symptoms.

*Case 3.* Patient aged 40; ulcer-like trouble last few years, with melena on admittance.

*Case 4.* Female aged 42, short time before admittance she had a hematemesis and claimed to have had repeated cures for ulcer.

*Diagnosis:* For the present the diagnosis of gastric diverticula has been made by the Roentgen examination, for there are no other characteristic symptoms as far as we know. Therefore, without pathognomonic symptoms or signs, one finds in Roentgen examination by barium meal, a sack, pocket, or pouch communicating with stomach, noticed by the barium meal entering this pocket, followed by retention, fluid level, and gas-pocket above the barium, varying in size from a small pea to a large plum, located on the lesser curvature. In this condition it is sometimes difficult or at time impossible to decide between diverticulum and perforated gastric ulcer. The ulcer must be recognized by secondary signs and the patient's history, and if characteristic of ulcer, it may be safer to make a diagnosis of ulcer, merely by law of chance. But a vague ulcer history with an oral or rounded pocket, with a contrast fill in its lower half (seen in the erect position), gas bubble above, with a following retention especially if located at a favorite seat, where as a rule ulcers do not occur, and with retention, in my opin-

ion, justifies the radiological diagnosis of diverticulum.

Before presenting my cases and slides, I would like to read a history and report of examination of a case of F. Perussia<sup>1</sup> of Italy on radiological observation of diverticulum of stomach.

The patient, a man of middle age, with slight vague symptoms of dyspepsia, was referred to the author for radiographic examination of the digestive apparatus. Since preliminary examination with the patient in a fasting condition revealed nothing worthy of note, half a glass of milk which contained barium sulphate was administered, ran rapidly through the esophagus without having encountered an obstacle, and having passed the cardia flowed in part to the caudal pole of the stomach, located at the level of the umbilical cicatrix, and was in part intercepted in a small round pouch, situated superiorly and medially, immediately below the cardia, and on a level with the twelfth dorsal vertebra. Into this pouch, which exhibited the dimensions of a nut and presented regularly convex contours, the liquid settled in the form of a half-moon, with its superior horizontal level surmounted by a small bubble of gas. Following ingestion of Rieder's meal, the stomach appeared in all respects normal, with the single exception of the constant presence of the diverticular shadow already described, which was detached from the contour of the lesser curvature immediately below the cardia and in consequence of the increase in its contents appeared greatly distended. The patient was placed in a supine position upon the trochoscope, and when the gastric contents had risen and filled the cardiac portion of the stomach, filling of the channel of communication between the pouch and the greater cavity of the stomach was obtained, and the channel was demonstrated as rather short and wide with regular contours. No contractions of the pouch were remarked, although slight displacements of the latter occurred in connection with respiratory movements, retraction of the abdominal walls, and change in position of the patient. Palpation of the entire gastric area and of the site of the pouch in particular proved painless. In a second examination conducted six hours later traces of barium sulphate were encountered in the pouch, while the rest of the stomach was emptied of the paste ingested in the morning. Repeated administration of milk which contained barium sulphate each time revealed identical characteristics as above represented.

Cases of actual congenital diverticulum of the stomach are declared extremely rare by the author, who found reports of only ten in radiological literature.

Perussia warns that in establishment of a positive diagnosis the frequency with which

diverticula resulting from penetrating ulcer of the stomach and (less often) from ulcerous neoplasms occur should be taken into account. Diverticular formations of the duodenojejunal flexure are said likewise to constitute a possible source of error in differential diagnosis. Radiological examination in accordance with the method above described is regarded by him as an indispensable expedient in all instances of suspected existence of congenital diverticulum of the stomach.

Case of Drs. Parker and Durkin. Female, aged 33: P. H.: Bilato-oophorectomy 8 years ago for dysmenorrhea; one child, aged 10; patient had pneumonia once.

P. I.: For 4 years once a month she would vomit after meal, and after eating again, belching would occur, which initiated vomiting. There were no other symptoms. Nov. 27, 1926, while feeling perfectly well she experienced a sudden sickening pain in the epigastrium, with nausea and vomiting. For the next 5 weeks, from 10 minutes to 4 hours, the patient vomited. Pain was not always present, but merely a sense of fullness and distress, followed by vomiting which gave her relief. Then vomiting, as a regular occurrence, stopped. Since then there have been spells of occasional vomiting. The past week the patient has had more or less constant pain, distress in the epigastrium which was not influenced by food. During this time she lived on soft diet.

The x-ray showed pylorospasm, cardiospasm, and either perforated ulcer or diverticulum on lesser curvature.

On Feb. 25, 1927, the patient was better; she still had some pain but not so marked. She had vomited her supper every night, 2 minutes p. c. Vomiting was preceded by distress. She frequently tried to inhibit it, but then regurgitated repeatedly and swallowed each time. At other times she vomited entire meal just to obtain relief. The patient is nervous, worries, and is not happy.

March 10, 1927, she had the flu, kept food down most of the time; little pain, has been coughing and feels weak.

April 18, 1927, the patient returned. There had not been so much vomiting, had vomited twice that week. Pain was varying, sometimes crampy, sometimes only soreness. Has been quite nervous lately, weeping without cause. Frequent palpitation on effort. Sleeps well without dreams. Vomiting is the least of her worries now. Pain does not bother her. Heart and nervousness are the main trouble now. Heart rapid, 104. No subjective sensations now. Wt. 137, a loss of 3 lbs.

Case of Dr. Fisher:

History: Female aged 39; temp. 99.2; pulse 80; resp. 20; Wt. 134½ lbs.; Ht. 67½ inches; B. P. 119-78.

Complaints: Hematemesis.

Onset and Course: Four weeks ago, in about the middle of the night, the patient was awakened and

1. PERUSSIA, F.: Radiological Observation of Diverticulum of the Stomach, *Reforma Medica*, 40: 485-486, May 26, 1924.



noticed a salty taste in the mouth, followed by vomiting a large amount of blood. She found her way down stairs in the hopes of awakening her father, but upon entering his room she fainted and again vomited a very large amount of blood. She was seen shortly after by Dr. Welch, who carried out the usual treatment. Until a few days ago she has been in bed and has made a rapid convalescence. A history, as given by patient concerning stomach symptoms, is absolutely negative. Upon questioning concerning the possible symptoms, no other or additional information was obtained. She does state, however, that she is quite tired and experiences a tired feeling in the stomach, although this is in no way by food taking. In fact, she states that it is not severe enough to demand relief. About four years ago the patient had a similar experience (hemorrhage), at which time it was thought that the blood came from the esophageal varix. The patient was referred to St. Francis Hospital.

*Physical Examination* reveals a tall, well developed, well nourished adult female, who does not appear ill.

*Head and Neck:* Scalp is negative. Pupils are dilated equally and act to L. & A. Tonsils are imbedded and not suspicious appearing. Nose, sinus, ears are negative to external examination. Teeth, several suspicious. Buccal cavity; no cervical adenopathy. No palpable thyroid or Virchow gland.

*Chest:* Symmetrical; mobility and expansion good. No dull areas. No rales heard.

*Heart:* Inside the mid-clavicular line. Rate and rhythm good. No murmurs heard.

*Abdomen:* Of normal contour. No organs, masses. No tender areas palpable.

*Extremities:* Are negative. Reflexes present.

#### *Laboratory Findings:*

*Urinalysis:* 6-8-27. Sp. gr. —1020. React. acid. Alb. Sug. Indol. negative. Bile negative. Mio. about 40 pus cells per field, some round epithelial cells.

*Blood:* Heml. (Sahlis) 58%; R. B. C. 2,380,000; W. B. C. 6,800; Diff.—Polys. 68%; small 30%; large 2%; total 100%. Some anisocytosis. Coag. time 7 min. Feces neg. to blood. Wassermann negative.

6-12-27: Gastric Meal—Free acid 10—total 42—slight increase of yeast cells. Blood slight trace.

6-14-27: Stool Analysis: Positive to blood.

6-17-27: Stool Analysis: Positive to blood.

6-21-27: Stool Analysis: Shows marked positive reaction to blood.

6-22-27: O. C. Patient to return to her home and report with stool for examination about three times a week. In about two weeks to report for another stomach analysis. To continue taking Cal. Carb.

7-1-27: Stool Analysis: Positive to blood. Given calcium carbonate, gr. 30, one powder five times a day.

7-9-27: O. C. Stool: Negative to blood. Feeling fine and condition seems good. To continue on management and to report in two weeks for stomach analysis. Hemgl. 65%, R. B. C. 3,100,000.

7-29-27: Patient states that she has been feeling quite well. Ewald meal test shows as follows: Free

8—total 32; combined 16—organic 8—blood positive—stool analysis neg. to blood.

#### *Patient advised surgery.*

9-15-27: O. C. Patient continues quite well and is allowed to take a trip to Minneapolis and to return. Advised concerning diet and to continue with management. To be operated on in the fall.

10-14-27. O. C. Patient to report in a few days for operation of stomach condition. Hemgl. 75%, R. B. C. 3,700,000. Stool analysis neg. to blood.

10-22-27: Urine practically negative. Gastric meal: free acid 10, total 42, comb. 28, organic 12. Mic.; few sarcina, increased yeast cells, blood negative.

10-29-27: *Post Operative Blood Examination:* Hemgl. (Sahlis) 72%; R. B. C. 3,640,000; W. B. C. 7,600; Diff. Polys. 75%, Small 16%, large 7%, Eosin. 2%, total 100%.

#### *X-Ray Examination:*

The patient, female, aged 39, wt. 140, was referred to our x-ray department by Dr. Fisher for a chest and a gastro-intestinal study.

*Chest:* Shows increased density of left apex, with some calcification in the left middle third of the lung. No evidence of pathology of the heart or great vessels.

*Examination of Stomach:* Six hours examination with barium meal. Stomach was empty except one area of density, located on the lesser curvature, at the cardiac end, near the diaphragm. It is about 3 cm. in size, smooth in outline, tending towards a cone shape, the base being upward. It was not movable, not affected by diaphragmatic movements, and on account of its high location not palpable. The balance of a six hour meal was in the cecum.

The immediate meal shows the stomach posed third degree, rather large, hypotonic, with normal peristalsis. No sign of incisura, cap fill smooth and empty. The meal, in passing through the esophagus, over the described area, showed no other filling defects, and did not apparently increase the size of the area. On palpation upward, the stomach meal did not seem to fill the area any more. There was no obstruction, or sign of diverticulum of the esophagus on a lateral examination. Three films were taken which showed a pocket, either within or connected to the cardiac end of the stomach, one and one-half by three cm. in size. On June 10 there was no evidence of retention but still a shadow of a gas pocket. The patient was again referred for examination of the stomach on Oct. 21, 1927. She was not given a six hour meal, and an immediate meal examination was made. The stomach (fish-hook type) was rather large, hypotonic, slow peristalsis, 3rd degree ptosed, and no evidence of any filling defect, except the same pocket on the lesser curvature near the cardia. Films were taken which showed the pocket in which barium was retained. The pocket was located 4 or 5 cm. above the mass of the meal. When the patient was in the horizontal position it measured 3 by 1½ cm. Four hours later the film still showed retention (1¾ by 2 cm.). Seven and one-

half hours later showed the same amount as at four hours.

*P. O. Findings:* There was no evidence of ulcer, or diverticula. The stomach was not opened, and the surgeon could not apparently palpate up where filling defect was seen. The spleen was infected.

#### CONCLUSION

1. That diverticulum of the stomach is not common.
2. That we must differentiate between ulcer in cardiac region of stomach from diverticulum.
3. The only positive method of diagnosis is by Roentgen examination.
4. By bringing this subject to you, we may all gain more knowledge in our further study of gastro-intestinal cases and not overlook the possibility of diverticulum.

#### DISCUSSION

Dr. F. J. Ronayne, West Suburban Hospital, Oak Park, Illinois: I presume that the subject of this paper is true diverticulum of the stomach, and it would appear to me that it is impossible to diagnose the true from the false unless the patient is operated on and a section removed because it all hinges upon whether or not this pouch or accessory pocket contains all three coats—that is, the mucosa, the muscularis and the serosa.

Anyone that has had a large experience in gastro-intestinal work has, of course, many cases of accessory pockets in the stomach and duodenum and of course the esophagus.

Dr. Goodwin spoke of the cases of diverticulum in other portions of the gastro-intestinal tract, and, of course, one can feel more sure of the diagnosis in the esophagus and in cases of diverticulosis of the colon, but in the stomach I think it is harder.

We call them accessory pockets and have always felt that most of them represented old perforated ulcers. Two days ago I had a case with a diverticulum of the esophagus and also an accessory pocket in the middle third of the descending duodenum. Now one might be justified in assuming, because of the diverticulum in the esophagus which was probably congenital in origin, that the accessory pocket in the duodenum was a true diverticulum but I hardly felt that way about it.

Another point, I think, is that if the opening between the stomach and the accessory pocket is large that may be a point in favor of its being a true diverticulum because it would hardly appear that one of these accessory pockets could contain all three coats of the stomach if the opening was very narrow, say an eighth of an inch or less in diameter.

I had a case of that type on the lesser curvature of the stomach or the posterior wall, very close to the lesser curvature. This had a very narrow connection with the stomach about a quarter of an inch long, so I felt that it was an old perforated ulcer. Another

accessory pocket at about the junction of the pars media and the antrum was very large and could be filled and emptied very readily. Of course, the opening into it was at least a half inch in diameter. Whether that represented an old perforated ulcer or a diverticulum I do not know.

As Dr. Goodwin said, true diverticulum of the stomach is very rare and at the Mayo clinic, as far as I know, they only report one case and that case also had an ulcer.

Dr. Goodwin's case is undoubtedly a case of true diverticulum, but to prove it scientifically some men might want to see the specimen, to see if it did contain all coats.

I am sure that we all enjoyed the doctor's paper and it calls attention to the importance of these diverticula.

I do not know how these patients are going to improve unless that condition is corrected. Dr. S. reported two or three cases, I believe, of diverticula of the duodenum and until the diverticula were removed the patient certainly did not improve and after operation, with removal of those diverticula there was complete recovery.

I do not know whether anybody here has had any cases of true diverticulum of the stomach which have been proven either at autopsy or following operation on removal of the specimen, and they feel as I do that they are very rare and that most of these accessory pockets represent old perforated gastric ulcers.

We had one about three months ago on the posterior wall of the cardiac end of the stomach.

Dr. J. S. Archibald, Decatur: I would like to ask Dr. Goodwin if finding blood in the feces so frequently would not indicate an ulcer rather than a diverticulum. I can see no reason for finding blood in the feces for four or five examinations in succession like he found it in this case, if the condition is due to a diverticulum.

Dr. P. B. Goodwin: What made me think this was not an ulcer or an old perforated ulcer, there was nothing in this case of any previous ulcer history at any time. She had practically never complained of any stomach trouble. The only thing that occurred was this sudden hematemesis—no pain—with a slight similar attack just a short time before that. So I felt that this was not an ulcer.

Dr. I. S. Trostler, Chicago: What relation would the hematemesis have to the diverticulum?

Dr. Goodwin: I do not think it had any. I do not think the lesion of the stomach was the cause of the hemorrhage. That is my opinion. This case, after being operated on, has apparently seemed to go along all right. I tried to have the surgeon go into the stomach at the time to see where this was located and prove it to me, but he did not think it was necessary.

Possibly some time this may be done if it continues to go on.

Dr. Archibald, there is a peculiar thing about blood in the stools. There was nothing in the stomach, nothing in the gastric analysis outside of this blood that would give any indication of an ulcer history, an



ulcer examination. I cannot tell why that blood should continue, but I do not think it came from this lesion at all.

## CARCINOMA OF THE ESOPHAGUS\*

M. H. STREICHER, M. D.

Instructor in Medicine, Research and Educational Hospital of the University of Illinois; Junior Attending Physician, Grant Hospital

CHICAGO

Carcinoma of the esophagus constitutes a very large percentage of esophageal lesions in adults (90-95 per cent.). The preponderance of carcinomatous lesions of the esophagus frequently influences the physician to a mistaken diagnosis. The differential diagnosis becomes essential in consideration of prognosis. About six per cent. of all cancers found at autopsy are cancers of the esophagus.

The following is a report of a group of cases observed at our hospital on various occasions which I believe are representative of interesting clinical data in esophageal lesions. The cases reported involve the upper, middle and the lower end of the esophagus, respectively.

Case 1. A male, white, seventy-three years of age, admitted to the out-patient department on November 7, 1927, complaining of inability to swallow liquids and solids for three days. He states that a previous diagnosis of spasm of the esophagus has been suggested.

Past History: Patient had "flu" in 1910, pleurisy in 1926 and typhoid at twenty-three years of age.

Family History: Essentially negative.

Physical Examination: Patient is a medium sized white male, emaciated but apparently not acutely ill. In general the physical findings were essentially negative.

Urinalysis: Negative.

Blood Count: 3,650,000 red cells, white blood cells 8,200; hemoglobin 80%. The Wassermann reaction was negative.

Fluoroscopy examination made in A. P., P. A. and lateral directions showed a constriction of the upper end of the esophagus and evidences of perforation into the trachea with some of opaque meal in the right bronchi. (Insert Fig. 1.)

Fig. 1 is a photograph of an x-ray plate demonstrating the obstruction at the upper end of the esophagus.

Esophagoscopy showed a high grade obstruction at level of upper end of sternum. A portion of tissue was removed for diagnosis. Histological report was that of a squamous cell carcinoma.

On account of his age and marked weakness no

operation was suggested. The patient was discharged from the hospital on November 28, 1927, and was advised to return to the out-patient department for routine dilatations with bougie. With considerable difficulty we were able to pass an 18 F. and at times a 21 F. He gradually lost weight, became considerably weakened and hardly able to retain any nourishment. An emergency gastrostomy was refused by the patient. He disappeared from the clinic on January 23, 1928, and we have not heard from him since.

Case 2. A male, white, sixty-one years of age, admitted to the out-patient department on March 29, 1928, stating that about a year ago he noticed that he



Fig. 1. Photograph of an X-Ray plate demonstrating the obstruction at the upper end of the esophagus.

could not swallow very well and that he had a burning pain in the epigastrium continuously. He had lost fifty pounds in the last year. He has been treated for a stomach ulcer by a family physician for about twenty years, but did not improve.

Past History: Had typhoid at eighteen years of age and gonorrhea at sixteen.

Family history apparently negative.

Physical examination reveals a poorly nourished white male, markedly emaciated and dehydrated. A general physical examination was entirely negative.

Urinalysis negative.

Blood count: The red cell count was 4,420,000; the white cell count 7,180; the hemoglobin 75 per cent; lymphocytes 50 per cent; large mononuclears 10 per cent; polymorphonuclears 38 per cent.; eosinophiles 2 per cent.

Wassermann reaction negative.

Fluoroscopic: Examination and films made showed

\*From the Department of Medicine, Research and Educational Hospital, University of Illinois, College of Medicine.

an irregular defect in the middle of esophagus—demonstrating a constriction for about four inches suggestive of malignancy. (Insert Fig. 2 and Fig. 3.)

Fig. 2 and Fig. 3 show photographs of x-ray plates taken in anterior and lateral position.

Esophageal Dilations: Several dilations were attempted, but with no progress. We were successful



Fig. 2. Shows a constriction in the middle of the esophagus taken in the anterior position.

in passing a 14 F once or twice, but the patient grew progressively worse and could not retain any nourishment at all. A gastrostomy was suggested.

Operation on April 17, 1928. A gastrostomy was performed under local (novocain). Left rectus incision into the abdomen, the stomach was exposed and a stab into it was made and tube inserted along the wall of the stomach using a 28 F catheter. The patient recovered nicely and apparently was getting along well until the tube came out. On April 29, 1928, the tube was reinserted into the jejunum. The patient became restless and very much dissatisfied with his condition and pulled the tube out of the jejunostomy wound. The usual course ensued and the patient soon died with a suppurative peritonitis. Permission for an autopsy was obtained from the wife of the patient.

#### Autopsy report:

Weight, sixty-two pounds.

#### Gross pathology:

Esophagus. Flat ulcerative growth elevated 5 mm. above the rest of the esophagus and encircling esophagus narrowing its lumen. Beginning at bifurcation of trachea, it extends down for  $5\frac{1}{2}$  cm. Tissue of growth is grey white, medullary, infiltrates the entire

thickness of the esophagus, extending into the right bronchus. Has a flat papillary growth  $2\frac{1}{2} \times 1\frac{1}{2}$  cm. and elevated 3 mm.

Stomach. An operative wound is seen on the anterior wall, on the prepyloric portion 5 mm. in diameter. Canal is noted with a flaplike valve at opening of the canal for the admission of the tube. There is a perforation of the posterior wall opposite the surgical opening. The mucosa of ileum about the inserted catheter is very hemorrhagic.

#### Microscopic Pathology:

Esophagus. Squamous cell carcinoma. Masses of cells replacing and invading the muscle tissue.

Lymph gland almost completely replaced by metastatic squamous cell carcinoma.

#### Anatomic Diagnosis:

a. Ulcerative annular carcinoma of the esophagus with extension to the right bronchus.



Fig. 3. Shows a constriction in the middle of the esophagus taken in the lateral position.

b. Carcinomatous metastasis to the peri-tracheal and esophageal lymph gland.

Case 3. A male, colored, thirty-eight years of age, admitted to the out-patient department February 3, 1927. He complained of having difficulty in swallowing for two months, regardless of the type of food. He had been vomiting practically all forms of foods. He relates having experienced considerable pain in swallowing liquids. The condition grew progressively



worse until in the last few weeks he could retain no fluids at all.

**Past History:** Patient had rheumatism in the right knee in early adult age. He had chancre twenty years ago.

**Family History:** Essentially negative.

**Physical Examination:** Patient was slender, colored, apparently not acutely ill. The chest was essentially negative. The knee jerk was diminished. A tentative diagnosis of carcinoma of the esophagus was made.

**Urinalysis:** Negative.

**Blood Count:** The red blood cells numbered 5,200,000; white blood cells 5,100; hemoglobin 78 per cent.; polymorphonuclears 31 per cent.; lymphocytes 36 per cent.; large mononuclears and transitionals 20 per cent.; eosinophiles 11 per cent.; basophiles 2 per cent.

**Wassermann Reaction:** Negative on several repeated examinations. Fluoroscopic examinations and films made in the oblique direction showed an irregular narrowing in the lower third of the esophagus suggestive of malignancy.

**Esophagoscopy:** Showed an irregular mass on the posterior esophageal wall at the lower third, markedly red and swollen and almost completely obstructing the passage. A bougie, size 18 F, was passed. In view of the negative Wassermann, the absolute obstruction and the inability to take nourishment of any form, a gastrostomy was advised.

Fig. 4 is a photograph taken from an x-ray film showing the carcinomatous obstruction at the lower end of the esophagus.

**Operation:** On May 27, 1927, the abdomen was

opened by a left rectus incision. The stomach was brought to the surface and sutured to the anterior wall. About two inches from the pylorus a hard nodular tumor was found. Then a rubber tube (31 F catheter) was inserted into the stomach. The free end of the tube was carried through the abdominal wall and enclosed into the final tie.

**Biopsy:** A perigastric lymph node removed for section was diagnosed as hyperplasia of a lymph node and negative for malignancy. A section of the cardiac end of the stomach was also negative for malignancy.

**Progress Notes:** The patient's condition has gradually improved and the patient received considerable nourishment through the gastrostomy tube. On June 5, 1927, the patient seemed somewhat dehydrated and fecal material was coming through the abdominal incision. The temperature arose to 101; pulse 120; respiration 32 and labored. Proctoclysis was started and symptomatic treatment instituted but the patient grew progressively worse and expired on June 11, 1927. We were fortunate in obtaining permission for an autopsy.

**Autopsy Report:**

Weight eighty-seven pounds.

**Gross Pathology:**

**Esophagus:** About 4 cm. from the cardia there is a constriction evident which measures 24 mm. The width above and below the point of constriction is 40 mm. The constricted area is thickened and infiltrated; the mucosa over the obstruction is thrown into folds and is ulcerated superficially. The infiltration of the esophagus extends into the cardia of the stomach; the muscularis is found to be composed of grayish white tissue.

**Stomach:** The stomach presents no gross pathology. The mucosa is slate in color and has undergone post-mortem changes.

**Microscopic Pathology:**

**Esophagus:** Squamous cell carcinoma of the esophagus, with much hornification. All layers of the esophagus invaded. Metastatic squamous cell carcinoma of the pancreas.

**Anatomic Diagnosis:**

a. Scirrhus carcinoma of the esophagus.

b. Gastro-enterostomy wound of the stomach.

#### COMMENT

Chevalier Jackson states that cancer of the lower third of the esophagus preponderated in men while cancer of the upper orifice is curiously more prevalent in women. Logan Turner and Fraser attribute this preponderance in Scotland to the drinking by women of excessively hot tea. Carmody, on the other hand, points out that in China high cancers are more frequent in men because men only eat hot rice to excess. In Case 1, dysphagia, the most common symptom of all esophageal disease, was apparently ignored by the patient until marked obstruction ensued. In this case, as in many simi-



Fig. 4. Photograph taken from an X-Ray film showing the carcinomatous obstruction at the lower end of the esophagus.

lar cases, dysphagia very frequently is intermittent in malignancy of the esophagus and therefore is diagnosed in the course of the disease as spasmodic and treated under this erroneous diagnosis until other concomitant findings are established. Unfortunately this patient appeared at the clinic in the terminal stage and consequently very little could be accomplished.

In Case 2, the patient's family physician apparently did not recognize the esophageal lesion at all and was treating him obviously for a possible gastric ulcer. The patient, of course, did not improve. It is interesting to note that while the patient lost fifty pounds in one year, the red cell count and hemoglobin percentage remained within normal limits with a marked decrease in percentage of polymorphonuclears, indicative perhaps of lowered resistance.

Malignancy of the lower third of the esophagus is second in frequency. In this case cachexia was not very pronounced so that an operation was advised. A two-stage procedure was planned; first, a gastrostomy opening was considered in order to introduce more nourishment and thereby build up the patient's resistance; and second, an anastomosis with the cardia of the stomach was to be performed. But the gastrostomy operation proved fatal before the anastomosis was made with the stomach. The interesting feature in this case is the negative pathologic findings in the stomach and the presence of metastatic squamous cells in the pancreas.

It is gratifying to know that adequate means for rendering the diagnoses of esophageal neoplasms certain and establishing such facts in the early stage of the malady have been made possible by the esophagoscopy instrument.

185 No. Wabash Ave.

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## PREVENTION AND TREATMENT OF NEO-NATAL MORBIDITY AND MORTALITY\*

JOSEPH BRENNEMANN, M.D.

CHICAGO

After a long and tedious birth, Pediatrics has at last taken its place as one of the youngest and most vigorous of the children of medicine.

A few after pains, a little neo-natal morbidity, still exist, but they, too, are passing and both mother and child are doing well. The maternal instinct that loves to keep the newest born in long curls and close to the apron strings is still evident, however, in at least two directions. In some of our leading medical schools the pediatrician is still a part of the Medical department (Pediatrics in parentheses), and the pediatrician has not yet, everywhere, a full and unquestioned swing in that most fateful and most plastic period of childhood, the period in which he feels, and not alone selfishly, that he is most useful—the neo-natal period of infancy.

The subject assigned to me in this symposium is a very large one and cannot be covered in full. Only a few things, that for one reason or another stand out in bold relief, can be taken up in some detail. For many reasons the pediatrician is especially interested in the newborn, more than in any other period. He has, therefore, an attitude toward that period as it now exists—and he welcomes the opportunity of presenting that attitude even though it leads into channels that he might perhaps more wisely wish to avoid.

There was a time when *obstetrics* and *pediatrics* were inseparable. The great obstetricians of a generation or two ago, like Budin, who wrote an excellent book on the nursling, were also great pediatricians. With the development of things, obstetrics has become a surgical specialty, innately more closely related to gynecology than to pediatrics. The older, less surgical obstetrician divided his interest equally between the mother and the baby. The general practitioner still does, and rightly so. It is a matter of common pediatric knowledge that as obstetrics more and more took its place as a surgical specialty, the baby found itself more and more an object of less careful and intelligent solicitude than did the mother, although it presented a far greater mass of serious potential pathology than did the puerperal mother. With a decline of maternal nursing from a nearly 100 per cent ability to nurse adequately for six or seven months, 100 years ago, according to French statistics, to a point where, according to Holt, less than 25 per cent of well-to-do mothers in New York can adequately nurse their babies for three months; there has arisen that most important of all pediatric problems, in

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the most important of all pediatric periods, the feeding problem.

The obstetrician has met this complex situation with reference to the baby in one or the other of three ways. First, he has learned the simpler essentials of neo-natal pathology and therapy, and applies them as diligently and interestedly to the baby as he watches the temperature, the lochia, and the fundus in the mother. With this obstetrician we have no quarrel—the baby may have. Even less so have we any quarrel with the general practitioner who does the same. Or, second, he realizes and acknowledges frankly that he is a surgeon, interested in the surgical aspects of his specialty, and that he has not that precise knowledge and necessary skill concerning the baby that others can give. He therefore refers the baby immediately after birth, or at least as soon as there is the slightest deviation from a straight and narrow normal course, to a pediatrician, or to some one else more interested and versed in the care of the baby. I think I can safely state that in the last decade, in our larger centers, this has become the policy of most of our leading obstetricians, both in private and in ward practice. To us, and certainly to the baby, this would seem the logical arrangement from every standpoint.

There remains a third type of obstetrician, and the same applies to some general practitioners, whose interest is almost wholly in the mother, and who leave the baby to shift for himself with only such protection as a hospital routine, a nurse, an interne and Nature can provide; or else they bring to the case an interest that is not backed by adequate knowledge of neo-natal pathology and therapy. If I seem, to those perhaps less acutely familiar with the subject, to be making a quixotic attack on a windmill, I am willing, after changing the metaphor, to "let the chips fall where they may." Every pediatrician could cite instances like the following. Not over six months ago, an interne in one of our general hospitals said to me, "I wish we internes knew a little more about infant feeding than we do. The babies in the charity wards are well looked after by the attending pediatrician, but we have to feed these private babies." After duly allowing for possible overstatement, the fact remains that he said it. As an illustration of how much an interne in a

general hospital may, or may not know, about feeding babies in this critical period, I might quote another who stopped as he passed me in the hall one day, and asked me if I could give him fifteen or twenty minutes some day, at my leisure, to tell him "all about this infant feeding dope." Two or three years ago I was asked to see a baby two weeks old, with a violent diarrhea, with excoriated buttocks and great emaciation following an enormous loss in weight. I told the mother frankly that she had a very sick baby, but that if she would stay in the hospital a few days longer we could probably straighten him out. She then told me that she had reservations for that night for some point in Northwest Canada and that she had to go. She had come a thousand miles, or more, to be delivered, so that she would be sure to have a living, well, baby. She had been duly delivered of a well baby, but having no milk the interne had fed the baby a mixture of 4 tablespoonfuls of Mellin's food in 4 ounces of water for each feeding. It would not be fair to tell in which local center of medical learning this young man had acquired his knowledge of infant feeding; and yet he was the only one who was feeding the only baby that a mother ever expected to have, and that she had come over a thousand miles to safeguard. Somewhat milder derelictions could be quoted in convincing numbers by all of us.

The pediatrician's interest is not predominantly a financial one. We have been just as much concerned about the ward baby as about the private one, and the attitude of the obstetrician too has been much the same toward both. Furthermore, both the financial returns and the glory are greater from the baby that is upset than from the well baby. The Christian Scientist and the uninterested or pediatrically uninformed obstetrician are often our best financial allies, and the parental exchequer suffers accordingly. I am one of the last to look sympathetically upon the unnecessary exploitation of the specialist. To belittle the services of the specialist, on the other hand, as is popular at the present time in certain circles, is on a par, in the present instance, with taking a Rolls Royce with a knock, or in need of overhauling or inspection, to a first class steam engine expert—instead of to a Rolls Royce service station.

That the newborn period is beset with unusual

hazards and calls for special skill and experience has been made amply evident in an authoritative way by Dr. Grulee and by Dr. Danforth. There is probably more actual and potential pathology, more need for delicate and responsible therapy, during the first two weeks of life and the preceding twenty-four to forty-eight hours than in any other equal period of life. The baby comes into the world more underdone than any other mammal. It occupies a place somewhere between the barnyard mammal and the marsupial, such as the kangaroo and the opossum, whose young cannot yet live apart from the mother. Its advent into the world is not especially timed as to seasons. It often passes from a warm, constant climate of 98.6 F. to that of a temperate zone winter. Sometimes, too, we forget that it is not a fur bearing animal. It has, moreover, a relatively large head that normally comes first, or last, with contents that are vital and are easily, irreparably damaged in the narrow passage to the outer world. Birth injuries elsewhere can occur. After birth it is peculiarly susceptible to environmental insults. Perhaps not the least of these are those that a supposedly intelligent dogmatic convention has decreed in the form of rules as to hours of feeding, quality and quantity of food, etc. It has often enough a mother whom civilization has robbed of the primordial function of assuredly supplying it with an adequate amount of the only perfect food ever contrived for newborn babies, a food that its undeveloped condition finds so necessary for normal progress. The mother has moreover a human and not a bovine brain and nervous system, the over-exercise of which makes for lessened milk. And now she smokes and presents us, in the adoption of this new style, with a new and as yet unmeasured problem along these lines. The baby is today commonly born in a gregarious environment in which pathogenic germs have their normal habitat. For some as yet unaccountable reason it enters at once upon a three day period of near starvation. Towards the end of that period, as Grulee has so well pointed out elsewhere, its path is beset by a host of enemies that are unique and obscure: inanition temperature; jaundice; toxic symptoms with lethargy, anorexia, somnolence, and often vomiting; hemorrhagic disease of the newborn, engorged breasts;

impetigo; diarrhea, etc. Perhaps in the light of all this, the pediatrician can be forgiven if he sometimes thinks that, in general, the mother would have been about as safe in his hands as the newborn baby is in the hands of a pediatrically indifferent obstetrician.

As I have said, the newborn baby enters at once upon a two or three day period of near starvation, as shown by what has been assumed to be a normal loss of 9 or 10 per cent of its body weight. Why? God only holds the answer. It is, however, the part of wisdom to accept a decree of Nature unless changed conditions seem to justify our setting it aside as no longer beneficial. Is there such a changed condition? We are no longer in a primitive state in which we could confidently expect an ample supply of natural food by the third day—food that would be well worth waiting for. A competent veterinarian has told me that there is no such delay among domestic mammals, except a delay of one day, with the secretion of a watery fluid only, in the case of the mare. It would be interesting, too, to know on what day lactation is established in the Bushman mother, for example. The question, then, naturally arises: Shall we take this matter into our own hands and disregard a natural dispensation? Starvation, *per se*, is always harmful; it is beneficial only when employed against a greater evil. We know well enough that the three day limit of near starvation cannot be exceeded without bringing on dehydration, with apathy and a lack of vigor on the one hand, and quite regularly an inanition temperature of 101 to 105 degrees, so well described by Holt, a temperature that drops to normal immediately and unfailingly when food is given, if there is no other cause for the temperature. There is another aspect to this period of starvation and failure to gain in weight. Accepting it as normal, the physician often extends it beyond this period. We are all familiar with the baby that for a week or more fails to gain, and yet no additional food is given, because the baby is "holding its own"—one of those expressions that always make the pediatrician "see red," and helps to assure him that he has here a field of usefulness. The baby that is "holding its own" is losing about an ounce a day, which it ought to gain—and the pediatrician and starvation are today sworn enemies,



except for an occasional very short truce in the case of the sick baby.

One thing we can all agree on: the newborn baby can get along without food for some time, without *water* it cannot. I have heard only one dissenting voice on this score from an authoritative source. An ounce of water every 2 hours during the first 2 days is enough—12 ounces a day—and a little more is as good, or better. If it will not take it, a little sugar—cane sugar preferably, because it is sweeter and requires less—will do no harm. Theoretic scruples can be met by saccharine, one grain to the quart of water—no more. Babies automatically suck anything sweet and naturally swallow it. That water has much, if not indeed everything to do with inanition fever seems obvious clinically. In one institution where water was not given freely I once saw an incidence of 50 per cent. In another an incidence of 30 per cent was reduced to the vanishing point when as much as an ounce of water was given every 2 hours. For this reason, and because of the immediate response to food, I cannot accept the views expressed by both Morse and Grulee that the cause of inanition temperature lies in an infection of or some other change in the meconium. After feeding is well established the baby needs little, if any, additional water.

Again, we are probably also agreed, or, I think, should be that the feeble, apathetic, lazy baby, "das trink-faule Kind" of the Germans, and the premature baby should be fed at once, the first day. The strong vigorous baby can be left to his resources, but if it does no harm to the feeble and the premature why should we fear for the strong and vigorous, who often develop an inanition fever, earlier than the others? It commonly takes a long time to live down an authority. In this instance we have not only God but also Czerny to contend with. Twenty years ago Czerny said that one should not give a newborn baby artificial food before the advent of its natural food because of the danger of establishing an unnatural and harmful fecal flora. Theory slinks away in the presence of a single fact. The most extensive and convincing challenge to the truth of this theory was the investigation of Bachmann, who fed some 511 newborn babies at St. Luke's Hospital with various mixtures from the first day of life with uni-

formly favorable results; and with not a demonstrable trace of harmful fecal flora.

The logical deduction from what I have said would seem to be: the premature and the feeble baby should be fed from the beginning. The stronger baby may, or may not be left to water and colostrum alone till the milk comes in. If the outlook for milk is not promising it is well, however, to begin additional food early, and never later than the second or third day. I am convinced that we will all soon feed earlier, probably from the first day on as a routine, and that we will have no more evidence than we have now that there is any danger from that practice and that it has far reaching advantages. We will then no longer see that vicious circle that is now so common: because of a lack of energy due to starvation the baby does not nurse well, especially from an engorged breast; not emptying the breast carries with it that lack of stimulation to milk secretion which is the only true stimulus that we know; the baby gets still less and nurses even less vigorously; the breast secretes still less milk, etc. Far from there being any danger that the baby will take less from the breast if given a bottle during this early period, as is still erroneously held by some, we give it so that he will be stronger and will nurse more vigorously and *so will get more milk from the breast*. It cannot be emphasized too strongly, in this connection, that *the newborn baby that is on the breast alone, that is not vomiting and has no diarrhea and is not gaining in weight is not getting enough food and should be given more*.

*What shall we give the baby* during this earliest period if we decide to feed him at once? Mothers' milk would, of course, always be the food of choice if one could get an ample and unexceptionable product by merely turning the faucet. In practice its use has become restricted to emergencies and to the feeding of the premature baby for obvious reasons. In its place some give 5 per cent or 6 per cent lactose, or dextrimaltose, or go at once to a milk mixture. I think many of us feel that fresh so-called "modified cow's milk," either raw or boiled, is not a wholly reliable food at this period. It is so hard to give enough to cover the infant's nutritional needs, without producing indigestion and diarrhea, that it is the part of wisdom to go at once to a more *therapeutic* food with which this can be accomplished with much greater regular-

ity. If there is a tendency to diarrhea, and this is always present potentially, protein milk is probably the food of choice and can be continued safely for a long time. Just now acidified milk, lactic acid milk, hydrochloric acid, vinegar, orange juice, lemon juice milk, or what have you? is in the ascendancy almost everywhere. There was a time when we added alkalis instead of acid, such as lime water, sodium citrate, milk of magnesia, and the babies seemed to thrive on it at that time. In weakly, poorly nursing, and premature babies, in the absence of mothers' milk, I confess to a fondness for condensed milk. It is interesting to note that Bachmann in his large series had the best results at this period with condensed milk. I would not hesitate to use and advocate it *in this very limited period only*, were it not for a haunting fear both that my professional dignity and reputation might suffer from an association with this dangerous, not to say damnable, food; and that I might add to its more extended and most harmful employment by furnishing fuel to the peculiarly pernicious practices and propaganda on the part of certain condensed milk producers. Evaporated milk apparently has the same action, is not essentially more devitaminized than boiled or pasteurized milk, does not contain an excess of sugar, is easily prepared and cheaper than good fresh milk, and has no stigma attached to it except that which comes from its association with condensed milk. I have long believed that it has great possibilities, and that in the near future it may become the food of choice in all early infant feeding, normal and pathological. If one's scientific conscience requires the addition of an acid there is no evident objection to its use and possibly some benefit at times. Dried milk has never seemed to me equally serviceable. During this earlier period the bottle should always follow, not substitute, for, a breast feeding.

I was one of the first in this country to follow Czerny 20 years ago in the four hour *interval between feedings*. I have long ago abandoned it as a fixed rule in the neo-natal, and even later period. Dogma can never quite replace individualization. While the majority of babies can perhaps be fed successfully every four hours, it is to me still an unwise and harmful thing to foist such an interval upon the weak, the premature, the vomiting, and especially the

lazy baby. Some of these should be fed every three, every two, every one hour, and sometimes oftener. I am not convinced, if we must have a standard interval, as one must to some extent in a hospital, that a three hour interval would not be better than one of four hours. Babies are individuals, and many are better satisfied if fed every three hours, and I feel sure that most of them get more milk from the mother with the shorter interval. In some maternities the night feeding even is omitted, so that the baby gets only five feedings in the 24 hours—a further evidence, it seems to me, that the obstetrician cannot be trusted unreservedly with the care of the baby!

After lactation is established, if the baby does not nurse vigorously enough to empty the breast this can be accomplished in either of two ways. It was Sedgwick who taught us to empty the breast further by manual expression or milking. Quite popular for a time, this method has unfortunately elements that make for discouragement unless one is an enthusiast or a propagandist. This method has very largely been replaced by the use of the Abt electric breast pump that is a marvel of efficiency, and the cheaper hydraulic pumps that have about them a mechanical appeal that was lacking in manual expression, while they are, if anything, more productive and less traumatic and painful. Until the baby nurses vigorously, then, the use of such a breast pump gives the baby at once more milk, and at the same time it assures us of the only stimulation to increased secretion of milk that is tangible, the thorough emptying of the breast. Many a mother has failed to nurse one baby because its a weak, lazy nurser, whose attendants, like Micawber, "waited for something to turn up"; and has nursed successfully a second baby when all of these measures were taken during that critical neo-natal period.

One thing more along this line. Equanimity and peace of mind on the part of the puerperal mother are important in convalescence and even more essential in proper nursing in which we are now interested. I think an over-solicitousness on that score, however, often defeats its purpose. The mother quickly senses a conspiracy of silence and of evasion as to her baby and naturally fears the worst—something so bad that she cannot be told about it. A frank and obviously truthful statement about any such minor



disturbance as a cephalhematoma, a transient facial palsy, an impetigo, a diarrhea, or a failure to gain properly for the time being, coupled with an assurance that it is transitory, harmless, or readily curable, will at once restore her peace of mind, and what is even more important, her confidence. I am not now speaking of mongolian idiocy, or of cerebral hemorrhage, or of some equally less obvious, but more serious condition that may rightly be an object of paternal, but not of maternal, concern for the time being.

I have purposely devoted the greater part of my paper to the feeding problem for what I take to be obvious reasons. It obtrudes itself in *every* case; all other conditions are more occasional in occurrence. Only a few of these can be considered briefly.

The pediatrician is interested pediatrically in being sure that the obstetrician sees to it that the expectant mother has a *well balanced diet* both as to food elements, and as to vitamin content. All that is necessary from the vitamin standpoint is that the diet contains milk if well born; butter; green and especially leafy vegetables; and fresh fruits; and that she goes out in the open air especially on sunny days.

He is also interested prophylactically in the *iodine content of her diet* in all goitrous regions such as ours. Congenital goiter is not so infrequent, carries with it a definite hazard even as to life itself; and is commonly readily preventable. The baby with a congenital goiter has nearly always a mother with a simple goiter, and both are so probably due to an insufficient intake of iodine in the mother's diet that an adequate intake should be one of the obstetrician's aims in prophylaxis, if there is no contraindication. The baby born with a goiter should be given some form of iodine cautiously administered.

*The thymus* takes us into debatable territory, but certain things can be stated dogmatically as safe rules of conduct. If a newborn baby has an obstruction in breathing as shown in a coarse to and fro stridor, augmented by bending the head forward or by pressing on the upper end of the sternum; or if it has sudden otherwise inexplicable attacks of cyanosis, perhaps even of convulsions; one should get an x-ray picture and at the same time give an x-ray treatment. If the film shows a broad shadow, especially if it gives the appearance of something overlapping the

heart shadow, two or three more treatments should be given. If it does not they should be given just as decisively. We have found at autopsy a narrow, deep, thymus weighing 50 grams that could not be seen in the film, taken antero-posteriorly, even in retrospect. If the dosage is adequate and the symptoms are thymic in origin as they nearly always are, the shadow, if it was present, will disappear and with it the symptoms; and in my own personal experience I have never seen a subsequent sudden so-called status thymico-lymphatic death. Clinically the situation is clear-cut; theoretically, it is as muddled as ever. How far we should go in the investigation and possible treatment of the thymus of all new born babies cannot be stated in our present lack of useful knowledge.

A consideration of *pyloric stenosis* and of pylorospasm would take us too far adrift. There is a neo-natal condition, however, that closely resembles these, and that may lead to confusion. There is a type of baby that vomits excessively from a few hours after birth; is commonly deeply apathetic, toxic, and becomes jaundiced early. The condition resembles pyloric stenosis when the vomiting is projectile. It is practically never true pyloric stenoses, the vomiting of which practically always begins later and they commonly vomit bile which is rarely if ever present in the latter condition. These babies are usually unable to nurse either the mother or the bottle for the time being. They should be given an abundance of water, even if they vomit, and should be fed early and often with a medicine dropper or by gavage with a catheter if necessary. Atropine may seem indicated. They practically all get well if treated properly and never need an operation. Cerebral contusion suggests itself as one etiological factor—pylorospasm is another.

Of *hydrocephalus* and *spina bifida* I am tempted to say that I have never seen, when considered from every angle, any tangible or lasting benefit from any form of surgical, or any other, treatment, except in the case of the syphilitic hydrocephalus which often yields promptly to specific treatment. Every mild hydrocephalus requires careful examination on that score and should be considered luetic until disproven clinically, serologically and therapeutically. If the parents prefer to have everything done, then one

has everything done that is customary. In spina bifida, especially, there is a non-negligible psychological factor. If they prefer to leave things as they are, after due council, one should lose no sleep in conniving at that decision in either condition.

Two anomalies of the intestinal tract are of especial interest, one always terminating fatally in the early neo-natal period—the other readily curable at any period. *Congenital atresia of the esophagus*, nearly always of the type in which the upper portion ends blindly as a dilated sack, while the lower, narrower portion passes from the stomach into the bifurcation of the trachea, is not one of the rarest anomalies. I have seen some 8 or 9 cases all of this type. It is readily diagnosed on the first day of life from the mucus that both flows constantly from the more dependent part of the mouth, and that forms a whitish froth at the opening into the nares; from the fact that the second or third swallow of water is always accompanied by jets of fluid returned through the nose, followed by deepest cyanosis, choking and coughing, with the appearance of imminent death from strangulation; and from the fact that a sound ends abruptly at about 12 c. m. from the alveolar process. No treatment has ever been of any avail—all surgery has only hastened the fatal end. The only treatment that might be of value and that from the nature of things can do no real harm would be to give a hard push to the esophageal sound in the hope that there might be a simple thin membranous obstruction. Grulee has reported a case of this type, but failed to push.

The *rectal* end of the intestinal tract is the seat of a host of congenital *anomalies*. All are of surgical interest only, except a simple iris-diaphragm type of obstruction that is due to an imperfect embryological fusion of the hollow mesenteron and proctodeum. In seven such cases that I have reported, nearly all presenting megacolon, abdominal distension, vomiting, constipation and great distress the obstruction was readily and permanently relieved by simple digital dilation.

A congenital heart requires no treatment during the neo-natal period. Parenthetically, it might be well to say that the patent foramen ovale as a cause of morbidity, and perhaps even of physical signs has long ago lost its standing in well informed pediatric circles. And also

that a loud basal systolic, or a humming top, murmur, without cyanosis, clubbing of fingers and toes, and polycythemia, is probably more frequent than the latter type and does not necessarily offer a bad prognosis.

Major anomalies, chiefly *dilated ureters and kidney pelves, and dilated bladders and ureters*, due, respectively, to ureteral and vesical neck obstructions, are among the commonest malformations encountered, unfortunately usually post-mortem. They were present in 13 per cent of the last 100 autopsies at the Children's Memorial Hospital. Often the symptoms are very minor, and quite misleading. Several were suspected of having pyloric stenosis, one was even operated on. Only a distended bladder or palpable kidney, commonly with pyuria and sepsis, can lead to a correct diagnosis. If the pyuria does not clear up after a short period; or if the bladder or kidney are readily palpable; or if the fever persists, a urologist should be brought in before it is too late. We have become deeply impressed with this fact.

The prevention of *birth traumata* concerns chiefly the obstetrician; the treatment falls to the pediatrician and eventually to the orthopedic surgeon. The pediatrician is deeply interested in informing the obstetrician that he still sees an appalling number of congenital spastic paralysees due to intracranial hemorrhage from birth trauma; and that he has the impression that their number is not lessening to an appreciable degree. The explanation lies no doubt in the fact that only the minority of patients have expert obstetrical care; that the midwife still holds forth; and that it is among the poor and ignorant majority that this condition is rife. So long as it continues, it represents an enormous wastage, and remains a challenge to things as they are.

The child that is born with a sufficiently severe cerebral hemorrhage fortunately dies at or shortly after birth. There is on the other hand every reason to believe that a large number of babies have hemorrhages that escape positive diagnosis and leave no tangible results. It is the child with a moderate hemorrhage that remains permanently damaged. In recent times the policy of leaving them alone has been superseded to some extent by an extensive flurry of treating them all by lumbar puncture. Excellent results have been reported in a field in which the diag-



nosis is difficult, often enough impossible, and in which it is manifestly impossible to tell whether a favorable result is one of therapy, or of coincidence, or of a mistake in diagnosis. Hemorrhages are rarely single and are by no means restricted to the meninges and to the ventricles. Schwartz has shown that within 24 hours there are irreparable and increasing changes in the area of hemorrhage. At an earlier period the withdrawal of spinal fluid and blood, and the increased intracranial pressure that necessarily accompanies the forced posture and the crying of lumbar puncture would seem rather to promote hemorrhage than to stop it or to remove it. For all of these reasons I am fully in accord with Grulee that lumbar puncture is of little, if any therapeutic value, and that it is inconclusive and even dangerous diagnostically. While hints of direct surgical attack are always in evidence, such interference has never occurred in my own experience. The difficulty in localizing hemorrhages, in evaluating their number and extent, and the psychological aspects of such an operation that offers so little, would seem to restrict its usefulness almost to zero. The paramount indication in treatment would still seem to be as nearly absolute rest as can be obtained early, with the aid of sedatives if necessary, and the minimizing of all effort by feeding with a medicine dropper. Even if it were true, as held by some, that an altered blood condition, such as obtains in hemorrhagic disease of the newborn, accounted for some or many of these hemorrhages, instead of trauma alone, it would help us little. After the hemorrhage has occurred the injection of serum or blood would not repair the damage already done; and one is hardly prepared as yet to treat all newborn babies by prophylactic injection in order to catch less than one case in a hundred.

*Cephalhematoma* is an extracranial, subperiosteal hemorrhage restricted always to the bone on which it occurs, and requires no treatment. The same is true during the neo-natal period of *sterno-cleido-mastoid hematoma* and of *facial palsy*. The orthopedic surgeon is best able to treat an *Erb's palsy*, or other *paralysis*, from the beginning, because he knows best how to avoid tension on a paralyzed muscle.

*Hemorrhagic disease of the newborn* presents one of the high points of dramatic interest in medicine—as well as one of the most striking

therapeutic results. In my earlier days it was one of the things that we dreaded as we now do tetanus or tuberculous meningitis. Except for a very occasional simple melena or a vaginal hemorrhage, both probably on a different pathological basis, I never knew one to live. We fought the fight with gelatine by mouth and subcutaneously; with styptics internally and externally; with compresses and packs; but they all died. The climax of my own experience came when I saw the second, as well as the first, of two successive children in one family die of this fearful disease. For a time we used horse serum, or rabbit serum, with good results. Since using human blood serum, or whole human blood up to 30 c. c., injected intramuscularly, I have seen no death. For a time I had a number of cases transfused, artery to vein, by Lespinasse, who did more than 50 of these cases with spectacular results and with spectacular technique. To see one of these babies that had bled white, or blue gray, with barely perceptible heart beat and respiration, turn rosy red as the blood flowed in, breathe freely and finally let out a lusty cry, was to get one of those rare thrills in medicine that suggest the miraculous. In greatly exsanguinated cases, with time and the requisite technique immediately on hand, it still has a field of great usefulness. Convalescence is eliminated. It not only stops hemorrhage, it restores the full volume of blood. Now that the diagnosis is nearly always made early, the lesser transfusions have proven adequate.

The ordinary *contagious diseases* hardly enter into a consideration of the neo-natal period. The newborn baby is all but immune to most of them. Two striking exceptions stand out and cry for prophylaxis—*whooping-cough* and *tuberculosis*. Anyone who has seen one newborn baby with each new paroxysm of whooping-cough turn blue, black, cease to breathe and instead of coughing pass each time into a convulsion, and ultimately die, can ever again be careless about contact of a newborn baby with pertussis. The mother's milk should offer no inducements if she has the disease. The same is true of tuberculosis. The younger the baby the greater the danger. The mother who has an open tuberculosis that so commonly gets worse after delivery can hardly live in the same house without almost surely infecting her young baby with results that we still see only too often. Maternal in-

stinct can hardly be trusted in a situation so fraught with danger. Almost equal care is of course necessary about others similarly afflicted.

*Gonococcus infections* have no longer the terror they had for Credé when 11 per cent of his babies developed gonococcus ophthalmia. The obstetrician and the law have well handled this situation following the simple prophylactic measures introduced by Credé. It is still a little of a mystery why erroneously so-called gonococcus vulvo-vaginitis, at one time the dread of all hospital-wards for older female infants and girls, is so rare in the newborn. I have myself never seen it. Lessened exposure during delivery, as compared with the eye, can hardly explain the lack of contagion in a disease so contagious. A temporary local immunity, or the absence of certain necessary factors that are operative in the transmission to the older baby, suggest themselves but lack proof.

*Congenital syphilis* relatively rarely presents recognizable, or at least recognized, symptoms during the puerperal period, as compared with the weeks following this time. If evident at birth it represents nearly always a recent infection in the parents and a virulent infection in the baby that demands immediate and vigorous treatment. If symptoms appear later it usually means an older parental infection and there is nearly always a history of one or more successively later miscarriages. Such a history calls for investigation and prophylaxis on the part of the attending physician. With 132 cases of congenital syphilis treated in the last year at the Children's Memorial Hospital we have a feeling that the obstetrician has a real obligation to try to prevent such a condition. The best time to treat congenital syphilis is long before conception takes place; the second best time is during pregnancy as early as possible. A careful scrutiny of the mother's history, questioning the father as to a history of infection, plus a reliable routine Wassermann test of the mother, and if positive a vigorous treatment of the mother and later of the child, ought to help greatly in lessening the incidence of death and of the severer manifestations of the disease in the baby. Unfortunately these cannot yet be utilized adequately in just that stratum in which they are most needed.

*Erysipelas, sepsis of the newborn, umbilical*

*infections* and *tetanus* are now among the rarities, thanks to obstetric technique.

Greater interest attaches to a very widespread infection that occurs in epidemic or endemic form in nearly all good hospitals. Hospitals in which *impetigo contagiosum*, once called pemphigus neo-natorum, does not occur either have no maternity wards, or else do not recognize the disease. I have myself had the impression that there is something about the puerperium, perhaps the mother's milk, or mother's milk stools; perhaps the baby's delicate skin and the way in which it is treated, or maceration from wet or soiled diapers, that makes for infection with impetigo at this period, without necessary contact with another case, which is usually considered a desideratum in contagion. In one institution the condition nearly ceased when the babies were no longer oiled daily, a *second argument against that unpleasant practice*. I knew a baby in an excellent, most sanitary home, that was born before either doctor or nurse could get there, with only the father in attendance, and yet a few days later the baby had an abundant crop of pustules. Immediate and rigid isolation is, of course, indicated and each new lesion should be pounced upon at once. Regardless of finer detail of etiologic diagnosis I have never seen an impetigo neonatorum non-syphiliticum that did not yield promptly to 2 per cent ammoniated mercury ointment, applied several times daily to each pustule after the top was brushed off, and, what is very important, for a number of days thereafter. So long as there is even a suspicion, and there is much more than that, that the ghastly and appallingly fatal dermatitis exfoliativa has a common origin with impetigo contagiosum, it behooves us to strike early, hard and long in every case.

The treatment of engorged *breasts in the baby* was admirably epitomized by Hamilton over 100 years ago: "The unnatural but common practice of forcibly squeezing the delicate breasts of a new born infant, by the rough hand of the nurse, is the most general source of inflammations in these parts. The consequence of this practice often is suppuration and abscess; and hence, besides the hazard of disagreeable marks left in the bosom of girls, the future woman may be prevented from ever fulfilling the duties of nursing. Parents cannot therefore be too careful in watching against this unnatural and



improper custom." Fortunately these precepts are now followed almost universally. I recently saw a girl of twelve years in the budding stage of puberty, in whom one breast was badly scarred and about one-half the size of the other, giving every indication that there would be later both an esthetic and a physiologic handicap. I mention this because we so rarely see the later result of such mistreatment.

*Inflammation in the mother's breast* with our present knowledge of infant feeding nearly always becomes an indication for permanent weaning from that breast before suppuration occurs. Complete rest in bed with support and a big hot wet boric dressing over and about the breast seems to me the logical treatment, as in other inflammations, rather than the ice bag now so commonly applied in this condition.

707 Fullerton Ave.

## IODINE THERAPY IN PULMONARY TUBERCULOSIS

S. LOUMOS, M. D.

CHICAGO

The introduction of iodine as a therapeutic agent in pulmonary tuberculosis, during recent years, has given rise to a great deal of discussion as to its therapeutic value, if any, and the most suitable dosage.

One of its advocates in France, Dr. Bernaud, uses extensive doses in all stages and all forms of pulmonary tuberculosis<sup>1</sup>.

A number of other investigators, e. g.: Bezançon and Burnaud, have taken the opposite stand in this matter. Dr. Niagoul-Fousal, on the other hand, considers the use of iodine as a valuable therapeutic agent only in cases of chronic pulmonary tuberculosis<sup>2</sup>. Dr. Niagoul-Fousal in cooperation with Dr. Marisal as the result of recent observations have concluded again that iodine is valuable, but only in the chronic and non-progressive forms of the disease and when the temperature is low<sup>3</sup>.

In America, Ritter has done the pioneer work in this field. He found satisfactory results by the use of large doses of iodine in the form of tincture<sup>4</sup>.

Recently Mariette reported unsatisfactory results with the use of iodine<sup>5</sup>.

The diametrically opposed reports would lead

one to assume that the last word has not been spoken in the treatment of pulmonary tuberculosis with iodine. This drug has proven of unquestionable value in the treatment of thyroid disease. In my ten years of service as a medical officer in the Greek army I was particularly impressed with the frequent association of varying degrees of hyperthyroidism in the presence of pulmonary tuberculosis. Because of this very frequent association of these two conditions I have been forced to assume that there may be some intimate relationship between the thyroid dysfunction and pulmonary tuberculosis. I could not reconcile myself to the thought that this association might be only a mere coincidence. I have tried, therefore, iodine therapy in a small series of patients and was pleased to notice very satisfactory results in pulmonary tuberculosis.

Iodine was given in decreasing doses over a prolonged period of time. We gave metallic iodine in the form of tincture in doses varying from five to fifteen centigrams per twenty-four hours over a period of 20 to 30 days. After an interruption of 15 days we resumed the iodine administration for another period of 20 to 30 days. When the patient showed improvement of his general condition, we diminished the amount administered, until the activity became quiescent. By giving iodine with calcium phosphate or with arsenic we have been able to increase the tolerance to iodine and thus were able to give it over a longer period.

We tried iodine therapy in 20 cases of frank pulmonary tuberculosis. Our diagnosis was based on the history, the physical findings, and the roentgen findings. The patients were between the ages of 18 and 30 years of age. Five were female and fifteen were males. In 16 of these we noticed the presence of minimal lesions in one or both apices. The remaining four had moderately advanced lesions. Two from this last group were discharged as arrested after a course of treatment extending over a period of 7 months. The other two showed an intolerance to iodine and the treatment was promptly terminated. Of the remaining 16 cases none presented any febrile reaction above 101 degrees F. during the treatment of iodine. After a period of treatment lasting from 2 to 5 months all active lesions became quiescent and the patients did not present either fever

or local findings in the lungs while the general condition greatly improved.

#### SUMMARY

In a small series of cases with pulmonary tuberculosis we administered tincture of iodine in small doses by mouth.

We gradually decreased the dosage instead of increasing it on the assumption that as improvement was noticed the demand for the drug would naturally become less, and thus hyperthyroidism or iodine intolerance was avoided.

After a course of iodine administration extending over a period of 20 to 30 days we allowed for a rest period of 15 days.

By giving phosphates or arsenicals along with iodine we were able to increase the tolerance so that iodine could be given over a longer period of time.

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### MEDICAL ECONOMICS FROM THE STANDPOINT OF THE PHY- SICIAN'S WIFE

FLORENCE AIRD  
CARTERVILLE, ILL.

The first doctor's wife, as she sat in her cozy, if somewhat smoky cave, and watched her next door neighbor swing proudly past its entrance, doubtless said to herself, "By rights that new fur coat is mine. If her husband would pay my husband what he owes him, I'd be the one to be out in this clear, cold air getting a little much needed exercise to keep my hips down, instead of sitting here by the fire, waiting for Spring and warm weather."

And down through the ages has come that same plaint, that same unanswered question:

"What's wrong, that I cannot have what has been earned (with considerable help on my part) for me?"

The modern physician's wife has "got her money's worth" of wondering. She hauls down the Encyclopedia and turns to the letter E. Ea, Eb, Ec, that's it—Economics. "Economics includes the discussion of all the numerous factors which make life profitable, whether to the nation, or to the business, or to the individual man." Not so bad. If there's anything in the nature of a discussion in the offing, she feels quite capable of doing her bit, though rather pessimistic through long experience as to its getting her anywhere. Certainly she knows of a good many factors that make life *unprofitable* from a financial standpoint, but about them—what to do, what to do?

The average physician's wife has seen her husband working night and day, doing good work and successful work and seemingly appreciated work; earning enough, but never able to get his collections within speaking distance of his earnings. She has seen him do without things he needed, and which his earnings would have amply provided for him, rather than ask for what was due him. Also she has seen his willingness that the entire family should keep him company in this business of "doing without."

She has stood by and heard men say "I've got everyone paid now but you, Doc, and I knew you weren't needing it." And she has wanted to say what both she and the men knew that the doctor would never say—"What is to keep him from needing it, as long as people pay their doctor for his services only after they have finished paying all their other bills and find that they have a little money left that they have no particular use for?"

She has heard still others say, "I've not got the money, doctor. My grocery bill takes all I can make, and we've got to live." And only loyalty to the man who would not want her to say it, keeps back the words "That's just the way you felt about it when you sent for the doctor, wasn't it? You *had to live*. Groceries may keep you alive when you're well, but it



takes the doctor to do it when you're sick. Then why give the grocer *all* the cash?"

She has even heard a man say to her husband, "I'm sorry, doctor, that I can't pay you what I owe you just now, but it is costing me so much to send my son to college, that I'll have to ask you to wait for your money," and she has longed to say to him, "Well, that's one way of getting money to send your son to college without paying interest for it; but if you are using money that belongs to us, I'm afraid I'll have to tell you that I can see no reason why we should pay your son's college expenses." Does she say it? Why no. No more than the cave woman of a bygone age clipped her swaggering friend of the new fur coat over the head with a fire brand, and took the garment of which she felt unjustly deprived, away from her. On second thought, though, perhaps that's exactly what she did do. Those were the days!

The average physician's long-suffering wife has heard, in fact, all kinds of excuses for failure to pay money justly and, in most cases, past due, and the doctor's attitude in the matter has been only a little less inexplicable to her than his dilatory patients' method of reasoning. Laziness? No. Selfishness? No. Perhaps just a fear, probably unacknowledged even to himself, that he would lose both caste and patients if he walked in the ordinary ways of mankind, and refused to accept in sole payment for his services, the gratitude that makes a splendid complementary to cash, but by itself "buys no beans."

The patient's attitude is probably a hang-over from the days when a doctor's remedies consisted of herbs grown in the garden that also supplied him with his daily food; when office hours were unheard of, and when the practice of medicine was not a vocation, but a man's contribution to the welfare of mankind, for which he would no more ask compensation than he would for pointing out the road to Heaven. Times have changed, but habits are hard to get rid of, and especially does mankind cling to, and try to find excuse for, those habits which save his pocket book an uncomfortable strain.

As for the doctor's attitude toward compensation, perhaps we must hark back again to the

time when gratitude, and not the coin of the realm, was the only payment expected or received; when the doctor occupied a pedestal above the common walks of men; a position from which in these later days he considers it undignified to descend, even though uncomfortable to maintain.

Isn't it just possible that the doctor feels that the attitude of adoration on the part of his patients might give way to one of surprised resentment on receipt of a bill for services rendered? That his position on a pedestal might suffer, if he sent out bills as the butcher, the baker, and the candlestick maker, do? That he would fain be held to be of finer clay than they?

There was a time when it was considered a shameful thing for a woman to appear in church with an uncovered head. If you remember, the apostle Paul made some very pointed remarks on the subject. But who agrees with him on that theory now? And not so very many years ago there were those among us who were inclined to think that a woman's honor was inextricably entangled in her long tresses, and that shorn locks meant weakened morals. What has become of that foolish idea? So, always, there is a constant transition of viewpoint. And it is high time that mankind in general became accustomed to the fact that the practice of medicine is now a business as well as a profession, and should be governed by the laws of business as well as the ethics of the profession. There's bound to be more or less disillusionment on the part of the public during the change from an outgrown theory to a present reasonable practice—disillusionment perhaps as profound as that of the small boy who whispered darkly to his companion, "There ain't no Santa Claus, Jimmie! I've just found it out. And when I git a little more time *I'm goin' to look into this Jesus business, too!*"

There must always be disillusionment with the old idea, before a new one takes its place; and the process of transition has its discomforts. But the practice of Medicine as a Business as well as a Profession is bound to come. So why not get down off that uncomfortable pedestal, which has no appropriate place in this

age of practicality and reason, and give the new idea a helpful push in the right direction?

308 North Division St.

### MEDICINAL PROHIBITION

The "Chicago Tribune" has little sympathy with Mr. Volstead as a physician; in fact it considers him as a downright fraud as a practitioner of medicine.

Here is what the "Tribune" says:

"The law enters the sick room with the doctor, takes the medicine, a medicine dropper, and a spoon, and measures out what the patient is to have. If the doctor disagrees, he'll have to bootleg the remainder to the patient."

"The requirements of hospitals and of sick rooms have no appeal to prohibitionists. They are concerned only with the personal habits of people able to take care of themselves and, rather than that a man should get a pint as a beverage, they would sacrifice the sick."

"The restriction on whisky as prescribed by physicians should be taken out of the Volstead act in common decency and the medicinal use of any form of alcohol should be granted."

"Savagery in prohibition has been progressive. It has been injected into statutes and into regulations, into the practices of enforcement units and the demands of professional prohibitionists. It has considered none of the old protections of life and property. It regards assassination lightly, liberty as nothing, and property negligible. It would padlock a sick room as readily as a roadhouse, and treat a dying man as a drunken bum."

### UNITY IN MEDICINE

"Medicine is the only world-wide profession, following everywhere the same methods, actuated by the same ambitions, and pursuing the same ends. This homogeneity, its most characteristic feature, is not shared by the law, and not by the church, certainly not in the same degree. While in antiquity the law rivals medicine, there is not in it that extraordinary solidarity which makes the physician at home in any country, in any place where two or three sons of men are gathered together. Similar in its high aims and in the devotion of its officers, the Christian Church, widespread as it is, and saturated with the humanitarian instincts of its Founder, yet lacks that catholicity—*urbi et orbi*—which enables the physician to practice the same art amid the same surroundings in every country of the earth. There is a unity, too, in its aims—the prevention of disease by discovering their causes, and the cure and relief of sickness and suffering."

—William Osler.

### THE PHYSICIAN

There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarer still, the clergyman; the physician almost as a rule.

He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing.—*From the Dedication of the "Underwoods"—Robert Louis Stevenson.*

### NOT IN THE THREE HUNDRED CLASS

Paedaretus, when he was not elected to be one of the three hundred (which was the highest honor and office in the city), went away cheerfully and smiling, saying he was glad if the city had three hundred better citizens than himself.—*Plutarch.*

He—"Do you think ignorance is bliss?"

She—"Well, you look happy."

## Society Proceedings

### ADAMS COUNTY

The regular monthly meeting of the Society was called to order at the Elks Club by the president at 8:30 P. M., November 12, 1928. Thirty-seven members were present.

Doctor Ralph A. Kinsella, professor of medicine at St. Louis University School of Medicine, gave an interesting paper entitled "Recent Studies of Rheumatism." The paper was largely devoted to the study of the bacteriologic origin of acute inflammatory rheumatism and was illustrated with lantern slides. Doctors Ralph McReynolds, Warren Pearce, T. B. Knox, O. F. Shulian, W. H. Baker, J. A. Koch and C. D. Center took part in the discussion of paper, which was closed by Dr. Kinsella.

Dr. Carson Gabriel gave a brief report of the interesting events at the 1928 meeting of the American Academy of Ophthalmology and Otolaryngology, held in St. Louis.

Dr. John A. Koch reported some of the interesting events of the 1928 meeting of the American College of Surgeons, held at Boston.

The question of cancelling the contract of one of our advertisers was presented by Dr. Baker, and, after considerable discussion, in which the person affected was given an opportunity to present his side of the case, a motion was carried, without dissenting vote, approving of the action of the Council.

The secretary made a motion that honorary membership in the Adams County Medical Society be conferred on Drs. William Robert Cubbins, Harry Edgar Mock, Paul B. Magnuson, Irving S. Cutter, James Gray Carr, Joseph B. DeLee of Chicago, and Ralph A.



Kinsella of St. Louis. The motion, as stated, was carried.

Dr. R. A. Harris was called upon for a few remarks concerning the progress that the Library Committee was making. Dr. C. A. Wells made a motion that the quarters for the library in the W. C. U. Building be known as the Library and Club of the Adams County Medical Society, which was readily carried.

The applications for membership in the society by Drs. Martha Anderson, N. A. Blickhan and Charles N. Becker were turned over to the Board of Censors.

The meeting was adjourned about 10:40 P. M.

HAROLD SWANBERG, M. D., Secretary.

### COOK COUNTY CHICAGO MEDICAL SOCIETY

*Goiter Symposium. November 7, 1928*

1. "The Science and Safety of the Prevention of Goiter".....O. F. Kimball, Cleveland, Ohio
2. "The Treatment of Goiter:"

(a) From the Standpoint of the Internist...  
.....Solomon Strouse

(b) From the Standpoint of the Surgeon...  
.....E. P. Sloan. Bloomington, Ill.

(c) From the Standpoint of the Roentgenologist.....M. J. Hubeny

Discussion: Joseph L. Miller, Oscar Nadeau, Walter W. Hamburger, E. L. Jenkinson.

*Regular Meeting, November 14, 1928*

Gilbert M. McClurg, Colorado Springs, Colorado, presented his Travel Talk, "Fly with Me Above Pike's Peak," brilliantly illustrated with motion pictures and beautifully painted stereopticon slides.

*Program Furnished by the Illinois Society for Mental Hygiene, Nov. 21, 1928*

"What Is Illinois Doing for Its Mentally Afflicted, Present and Future?"—Ralph C. Hamill, President, presiding.

"The Present Situation, a Basis for Comparison" H. Douglas Singer, Professor of Neurology, University of Illinois Medical School—former Acting Medical Director of Illinois Society for Mental Hygiene.

"Report of the Legislative Committee—Plans for the Future"—Charles Read, Chairman.

"The Development of a Modern Institution"—W. G. Murray, Managing Officer Dixon State Hospital.

"The Need—As the Court Sees It"—Mary Bartelme, Judge of the Juvenile Court of Cook County.

"What Is It Doing for Crime?"—Frank J. Loesch, President Chicago Crime Commission.

Discussion by Edward Ochsner, Sidney Wilgus, Lewis J. Pollock, F. J. Gerty, Miss Amelia Sears, Judge Hugo Pam.

### DE KALB COUNTY

Nov. 8, 1928, the De Kalb County Medical Society, with twenty-one physicians present, met for dinner at the Glidden Hospital, De Kalb, Ill.

"Intra-Cranial Cases" was the subject of the pro-

gram, which was put on by the staff of the Glidden Hospital.

Dr. Thos. McEachern of Rochelle reported a case of brain abscess, a case of brain tumor, and a case of meningitis. These three cases occurred in Dr. McEachern's practice during the past year. In the case of brain tumor, Dr. McEachern showed a picture of the brain, with the tumor, the size of a golf ball, on the right auditory nerve.

Dr. Clifford E. Smith of De Kalb, who worked with Dr. McEachern on these cases, discussed the aid which an oculist and aurist can render in arriving at a diagnosis.

Dr. C. H. Schaller of Rochelle reported three cases of brain tumor, with two patients living after operations by Drs. Loyal Davis and Cushing.

The papers were discussed by Drs. J. A. Badgley, Wm. E. Baker, A. R. Bogue, P. I. Hopkins, S. L. Anderson, Irving L. Heckman and E. W. Telford.

Officers elected for 1929 were as follows:

President, S. L. Anderson, M. D., De Kalb; vice-president, Dean F. Brooke, M. D., Genoa; secretary and treasurer, Clifford E. Smith, M. D., De Kalb; censor for three years, Robert G. Dakin, M. D., Sandwich. A rising vote of thanks was given Miss Agnes A. Hatch, the Glidden Hospital and its staff for the splendid dinner and program.

CLIFFORD E. SMITH, Secretary,

De Kalb County Medical Society.

### THE DISTRICT MEDICAL SOCIETY OF CENTRAL ILLINOIS

The fifty-second semi-annual meeting of the District Medical Society of Central Illinois, held Oct. 30 at Pana, was one of the most interesting meetings ever held by this Society in the last ten years. For the last two years the programs have been sponsored by the different towns in the District.

At this meeting the medical profession of Springfield put on the entire program. We had well-attended and interesting clinics in the morning at the Huber Memorial Hospital. There were about forty-five physicians present at the clinics. The afternoon session was entirely given over to the reading and discussing of the different papers, with about sixty physicians present. The Society is growing in numbers and interest.

The program was as follows:

"Advantages of Early Treatment in Certain Congenital Deformities".....G. W. Staben  
"Acute Abdomen".....Don Deal  
"Views of Ring Worm Fungus on the Hands and Feet".....G. C. Hunt  
"Juvenile Athyrosis".....H. G. Blankmeyer

A surgical clinic was held by Charles Patton, chest clinic by Hermon Cole, and medical clinic by S. E. Munson.

F. A. MARTIN,  
Secy. & Treas.

### LA SALLE COUNTY

The LaSalle County Medical Society held their annual meeting in Streator on October 23. The following program was presented:

"The Use of Small Doses of Radium at a Distance in the Treatment of Cancer".....  
 .....Roswell T. Pettit, Ottawa  
 "Treatment of Puerperal Sepsis". D. D. Maple, Chicago  
 "Practical Points in Dermatology" (illustrated with lantern slides).....Edward A. Oliver, Chicago  
 "The Acute Abdomen".....James T. Gregory, Chicago  
 There were about fifty doctors present.

### SOUTHERN ILLINOIS MEDICAL ASSOCIATION

The fifty-fourth annual meeting of the Southern Illinois Medical Association was held in Mount Vernon on November 8 and 9. Over one hundred physicians registered. Many physicians were accompanied by their wives, for whose entertainment ample provisions were made by the ladies of the Jefferson County Medical Society.

Dr. John E. Tuite, President Illinois State Medical Society, made an address on "The Benefits of Medical Organization." Dr. William T. Coughlin of St. Louis spoke on "Head Injuries"; otherwise the program was made up by the membership of the organization.

A banquet was given Thursday evening, at which Mrs. G. Henry Mundt, President of the Women's Auxiliary, and Dr. John R. Neal, Chairman of the Legislative Committee Illinois State Medical Society, were the speakers. Dr. Andy Hall of Mt. Vernon was toastmaster.

The election of officers resulted in the following selections: President, Dr. A. R. Carter of Murphysboro; 1st vice-president, Dr. R. F. Lischer of Mascoutah; 2nd vice-president, Dr. Charles W. Hall of Mt. Vernon; secretary-treasurer, Dr. W. J. Benner, Anna; assistant secretary, Dr. J. E. Reed of Benton.

Benton was chosen as the place of meeting for next year.

W. J. BENNER, Secretary.

### Marriages

JOHN W. BRENNAN, Chicago, to Miss Edna Elizabeth Brophy, of Sauk Center, Minnesota, August 17.

### Personals

Dr. Royal L. Eddington, Lacon, was elected coroner of Marshall County, November 6.

After a visit to Chicago this summer Dr. and Mrs. Frank Allport have returned to Nice, France, to live.

Dr. Jesse W. Carr has been appointed health officer of the village of La Grange.

Dr. Herman T. Bechtold, O'Fallon, was guest of honor at a dinner, November 11, in celebration of his seventy-fifth birthday.

Dr. John K. Shumate has been appointed superintendent of the Livingston County Tuberculosis Sanatorium, Pontiac.

Dr. Clarence O. Sappington has been appointed the first director of the newly created division of industrial health of the National Safety Council, Chicago.

Dr. Edwin R. Le Count, professor of pathology, Rush Medical College, addressed the section on pathology of the Buffalo Academy of Medicine, Buffalo, October 31, on "Causes of Sudden Death."

Victor E. Emmel, Ph.D., professor and head of the department of anatomy, University of Illinois College of Medicine, died suddenly of heart disease, November 7, while boarding a train at Glen Ellyn.

Dr. Frederick B. Moorehead gave an illustrated lecture on "Plastic Surgery from the Standpoint of the Layman and the Surgeon," November 11, at the Chicago Academy of Sciences in Lincoln Park; this was one of a series of free public lectures offered by the museum.

Col. J. D. Graham, I.M.S., representative of India on the health committee of the League of Nations and Office Internationale, Paris, public health commissioner with the government of India, and secretary of the governing body of the Indian Research Fund Association, visited Chicago, November 29-December 3, as the guest of the Rockefeller Foundation to observe public health activities.

Dr. Herman N. Bundesen, former health commissioner of Chicago, was elected coroner of Cook County November 6 by a very large vote.

Col. Bailey K. Ashford, U. S. Army, retired, addressed a joint meeting of the Institute of Medicine of Chicago and Northwestern University Medical School, November 15, at 303 East Chicago Avenue, on "Sprue and the Relation of Its Anemia to Pernicious Anemia." Col. Ashford has spent many years in tropical countries, particularly Porto Rico, where he did much clinical and research work on sprue.

Dr. Benjamin Goldberg, member and secretary of the Board of Directors of the Municipal



Tuberculosis Sanitarium, Chicago, addressed the annual meeting of the New York Tuberculosis and Public Health Association, November 22, 1928, at the Biltmore Hotel, New York City, on "A Unified Plan of Tuberculosis Control."

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### News Notes

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—The one hundredth regular meeting of the Chicago Society of Internal Medicine, November 26, was addressed by Dr. Géza de Takáts on "Impairment of Circulation in the Varicose Extremity," and Dr. Louis M. Warfield, Milwaukee, on hyperthyroidism.

—A sanatorium is to be erected in Jackson Park on the site of the old world's fair building, LaRabida, which burned several years ago. The institution will be known as the Jackson Park Sanatorium and Day Nursery. The building will conform in style with other South Park buildings.

—The Central Society for Clinical Research held its first annual meeting in the medical school at the University of Chicago, November 23. This society was organized in Rochester, Minn., last spring. The secretary is Lawrence D. Thompson, St. Louis.

—The facilities of the Municipal Contagious Disease Hospital are free to all who live in the city, and residents of other places who desire care in this hospital may obtain it for \$25 a week. This charge is also made for Chicago citizens who desire private rooms, and their private physicians may attend them. Ward patients are under the care of the physicians of the staff.

—The Chicago Urological Society was addressed, November 22, by Drs. Colquitt O. Ritch on "Intestinal Obstruction Caused by Acute Seminal Vesiculitis;" Leslie L. Veseen, "Fibromuscular Hyperplasia of the Prostate," and Daniel N. Eisendrath, "Brief Report of the German and French Urologic Congresses."

—In the five days ending November 25 the outbreak of smallpox in the Auburn Park district amounted to twenty-three cases, all of which have been isolated and are said to be mild. The health commissioner considers that there is no danger of an epidemic, as the exposed persons have been vaccinated. The outbreak is due

in part, it is reported, to an error in diagnosis, health department officials having considered one of the first cases to be chickenpox. Nearly 1,000 pupils in a school were exposed.

—At the November 13 meeting of the council of the Chicago Medical Society the council voted to suspend from membership for six months Dr. Athanase Marantis who, according to the bulletin of the society, was charged with unethical advertising. Dr. Marantis sent out a book entitled "Our Greatest Enemy," with a slip stating "If you think this book is worth reading, please insert a quarter in the coin mailing card and forward it to the author. It will help others to get the same book." Dr. Thomas G. Wallin, whose case was referred back to the ethical relations committee at the October meeting, was suspended for one year.

—The trustees of the Chicago Medical Society announce that Dr. Frank L. Rector, Evanston, has been appointed full-time executive secretary of the society, and will take up his duties about January 1. Dr. Rector is a graduate of the Agricultural and Mechanical College of Oklahoma, and of George Washington University Medical School, Washington, D. C. He is now engaged in preparing a report on a survey of health and hospital work in state and federal prisons. Previously he was editor of the *Nation's Health*, a monthly journal which combined recently with the *Journal of the American Public Health Association*. The trustees believe that the Chicago Medical Society is the first county or local society to engage a physician as full-time secretary. The membership of the society is more than 4,000.

—Skin specialists of two states organized the Iowa and Western Illinois Dermatological society in Davenport, October 29.

Dr. Robert E. Jameson, Davenport, was elected president; Dr. James C. Kessler, instructor in dermatology in the school of medicine at the State University of Iowa, honorary president; Dr. Victor Brown, Sioux City, vice president; Dr. W. B. Wakefield, Peoria, treasurer; Dr. A. T. Leipold, Moline, secretary; and Dr. Kurt Jaenicke, Clinton, chairman of the board of censors.

After a luncheon and organization meeting at Hotel Blackhawk, the doctors held a clinical session at the Davenport Visiting Nurses' cottage.

## Deaths

J. A. BELL, Naperville, Ill.; Hahnemann Medical College and Hospital, Chicago, 1879; aged 90; died, September 22, at Milwaukee, of senility.

PHILO B. CONANT, Roseville, Ill.; Medical Department of the University of Illinois, Chicago, 1902; a Fellow A. M. A.; past president of the Warren County Medical Society; aged 51; died, September 26, of chronic interstitial nephritis.

MARION CARROL DALE, McLeansboro, Ill.; Chicago Medical College, 1874; aged 78; died, October 3, at St. Elizabeth's Hospital, Danville. Dr. Dale was in practice nearly 54 years and is survived by three sons, all physicians: Dr. O. E. Dale of Everton, Dr. H. W. Dale of Chicago Heights, and Dr. A. E. Dale of Danville. And his grandson is a student in Washington University Medical School, St. Louis.

CHARLES GILBERT DAVIS, Chicago; Eclectic Medical Institute, Cincinnati, 1871; a Fellow A. M. A.; University of Virginia Department of Medicine, Charlottesville, 1873; formerly on the staff of the Cook County Hospital; aged 79; died, October 31, probably of cerebral thrombosis.

ARTHUR W. K. DOWNS, Chicago; Hahnemann Medical College and Hospital, Chicago, 1908; aged 57; died, February 16, at the Toronto General Hospital, Toronto, Ont., Canada, of endothelioma of the rectum.

FRANKLIN WATSON ESKEY, Sterling, Ill.; Rush Medical College, Chicago, 1884; a Fellow A. M. A.; formerly on the staff of the Public Hospital of the City of Sterling; aged 70; died, October 14, of carcinoma of the throat.

WILLIAM HENRY FALKER, Chicago; Rush Medical College, Chicago, 1902; a Fellow A. M. A.; formerly clinical assistant in surgery at his alma mater; aged 50; died, in October, of carcinoma of the liver.

MOSES FURLONG, Chicago; University of Buffalo (N. Y.) School of Medicine, 1882; member of the Illinois State Medical Society; formerly on the staff of the Cook County Hospital; aged 71; died, October 19, of carcinoma of the colon.

THOMAS J. GREEN, Salem, Ill. (licensed, Illinois, 1878); Civil War veteran; aged 82; died, October 26, of arteriosclerosis.

JOSEPH H. GREER, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1875; aged 76; died, October 16, of myocarditis and shock, following an operation for stone in the bladder.

ROLLO JAMES GRIMES, Kankakee, Ill.; Eclectic Medical Institute, Cincinnati, 1903; Spanish-American War veteran; on the staff of the Kankakee State Hospital; aged 53; died, October 7.

THEODORE C. GUENTHER, Chicago; Northwestern University Medical School, Chicago, 1896 member of the Illinois State Medical Society; aged 56; died, October 28, at St. Joseph's Hospital, of epidemic cerebrospinal meningitis.

FRANCIS MARION HARRELL, Cairo, Ill.; College of

Physicians and Surgeons, Keokuk, Iowa, 1881; also a dentist; formerly demonstrator of anatomy, University of Illinois College of Medicine, Chicago; aged 73; died suddenly, September 25, of heart disease.

HENRY HARTUNG, Chicago; College of Physicians and Surgeons, Chicago, 1894; a Fellow A. M. A.; formerly assistant professor of surgery at his alma mater; at one time on the staff of the Grant Hospital and member of the board of education; aged 60; died, October 10, of angina pectoris.

PATRICK B. HAYES, Chicago; Rush Medical College, Chicago, 1889; member of the Illinois State Medical Society; aged 76; died October 14, of carcinoma of the sigmoid.

ABRAHAM LITVIN, Chicago; Bellevue Hospital Medical College, New York, 1896; aged, 60; died, November 9 of a self-inflicted bullet wound.

GEORGE W. NEWBERRY, Smithfield, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1883; Civil War veteran; formerly a druggist; aged, 84; died October 10, of arteriosclerosis.

WILLIAM NIEGARTH, Pekin, Ill.; University of Munich, Germany, 1889; a Fellow A. M. A.; past president of the Tazewell County Medical Society; at one time county coroner; formerly on the staff of the Pekin Public Hospital; aged, 64; died, October 24, of pericarditis and thrombosis.

JULIA ORR, Chicago; Hahnemann Medical College and Hospital, Chicago, 1887; aged 86; died, June 9, of carcinoma of the colon.

ALFRED ROWE PENNNIMAN, Tamms, Ill.; National University Medical Department, Washington, D. C., 1895; a Fellow A. M. A.; aged 64; was found dead in his office, September 21, of cerebral hemorrhage.

JACOB B. PERKINS, Franklin, Ill.; Cincinnati College of Medicine and Surgery, 1895; member of the Illinois State Medical Society; formerly chairman of the local board of health and member of the school board; aged 66; died, October 10, of heart disease.

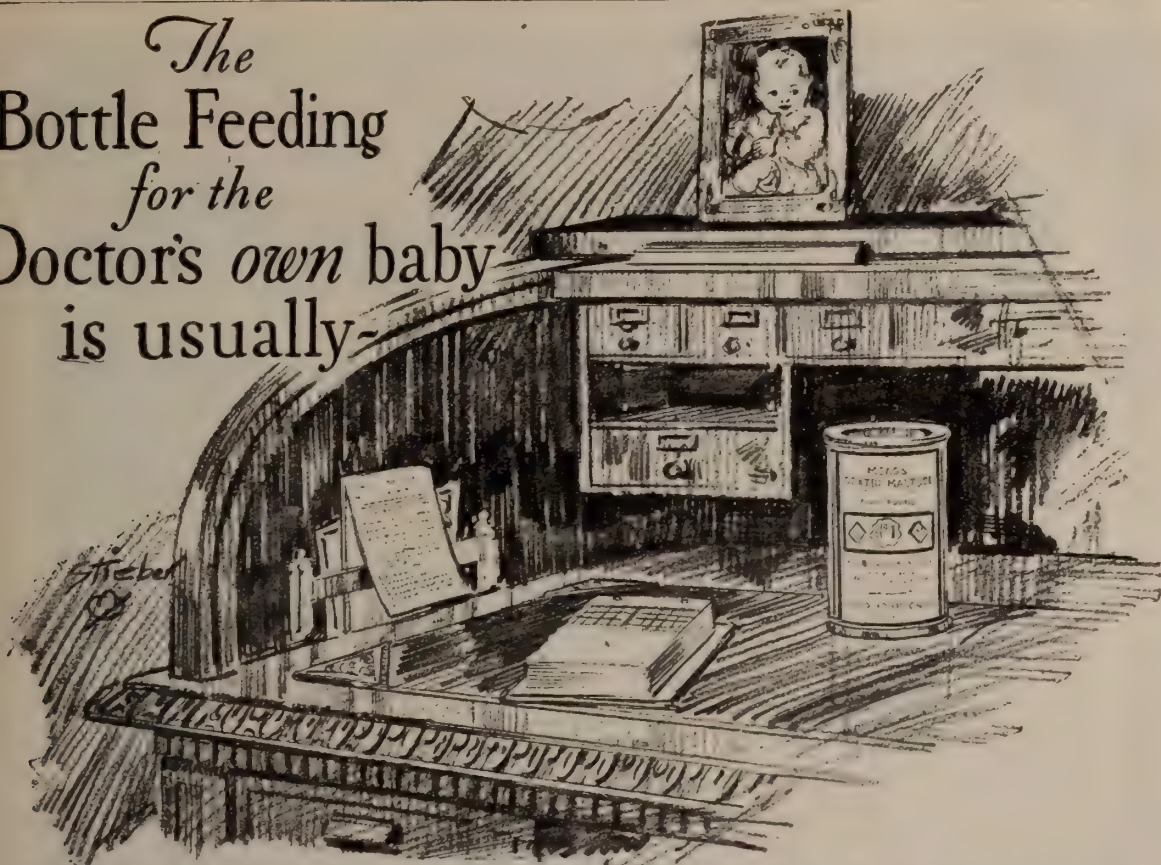
PAUL A. SLATER, Hindsboro, Ill.; College of Physicians and Surgeons, Chicago, 1894; member of the Illinois State Medical Society; district health superintendent; aged 61; died, October 1, of carcinoma.

JAMES VINCENT SMITH, Chicago; Yale University School of Medicine, New Haven, Conn., 1904; member of the Illinois State Medical Society; served during the World War; aged 47; on the staff of the Columbus Hospital, where he died, October 12, of cerebral hemorrhage and hypostatic pneumonia.

EDMUND W. WEISS, De Land, Fla.; Missouri Medical College, St. Louis, 1877; a Fellow A. M. A.; member of the House of Delegates of the American Medical Association, 1908-1910; for many years secretary of the Illinois State Medical Society; at one time physician in charge and teacher in the training school for nurses of the Ryburn Hospital, Ottawa, Ill., and lecturer in the training school for nurses, St. Mary's Hospital, La Salle, Ill., formerly health officer of Ottawa, La Salle, Peru and Oglesby, Ill., and county coroner; aged 72; died, November 3.



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Bottle Feeding  
*for the*  
Doctor's own baby  
is usually—



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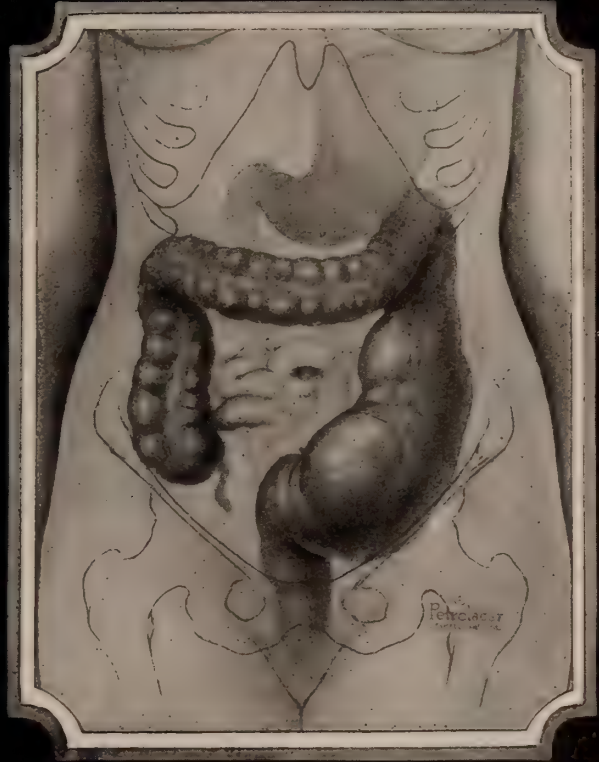
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The above picture is one of a series illustrating the Seventh Edition of the treatise "Habit Time" (of bowel movement).

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Menthol . . . . .	0.382
Ol. Cinnam . . . .	1.486
Formalin . . . . .	0.431
Saccharin . . . . .	0.361
Ol. Caryoph . . . .	0.297
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an endocrine prescription which stimulates metabolism, frees the organism of accumulated toxic fatigue products, increases the energy and restores the patient to normal strength and well being.



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remedy  
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## CONTENTS—Continued

### EDITORIALS

Educational Committee Offers Topics.....	1
Physicians in Florida Asleep.....	2
Back Numbers of JOURNAL Wanted.....	3
Bill Has Sheppard-Towner Backed Off Map.....	3
Medical Service in Universities.....	4
Illinois State Medical Society—Official Minutes.....	9

### CORRESPONDENCE

It Shows Encroachment. Dr. Vida A. Latham.....	38
Michigan Sends Thanks. Dr. C. B. Burr.....	39
Substitute for Sheppard-Towner. Marguerite Benson.....	39
Illinois Ahead Re Organization. Dr. J. R. Neal.....	39
Post-Graduate Courses in Berlin.....	40

(Continued on page 36)

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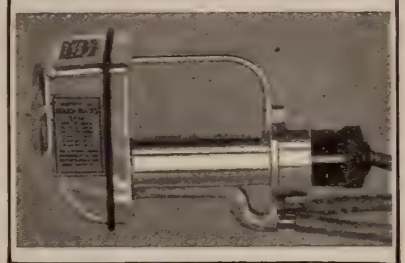
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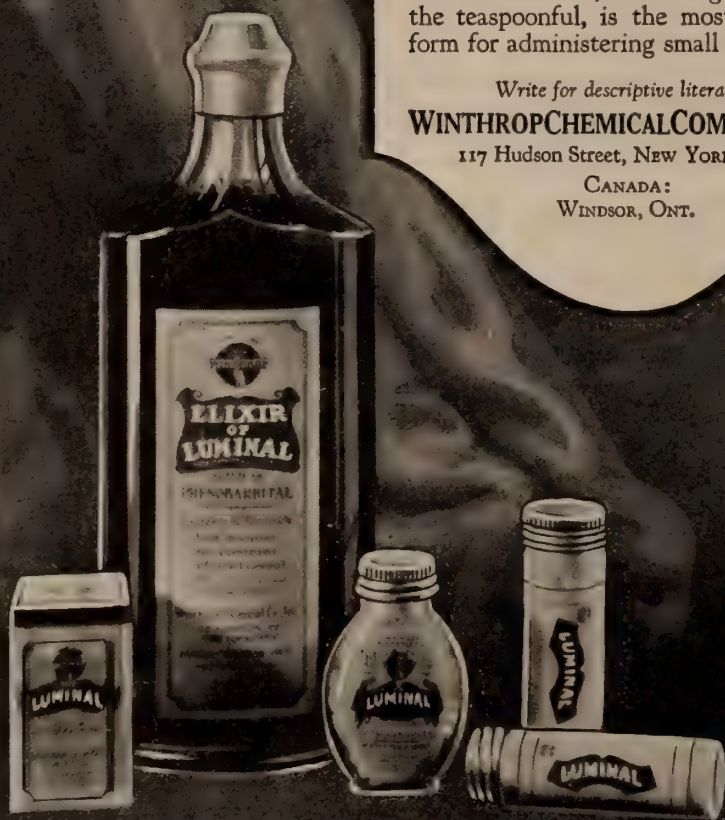
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Cervical or Inguinal Adenitis  
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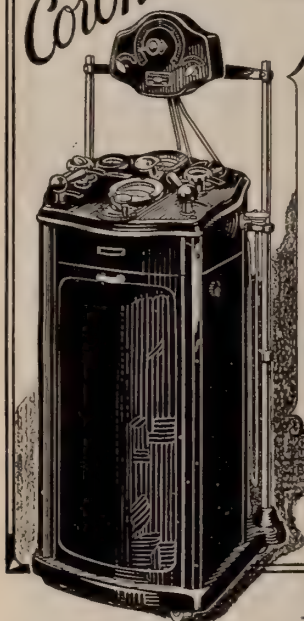
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Iodine . . . . .	0.01 %
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Essence of Menthol . . . . .	0.002%
Essence of Gaultheria . . . . .	0.002%
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Mineral Clay . . . . .	54.864%

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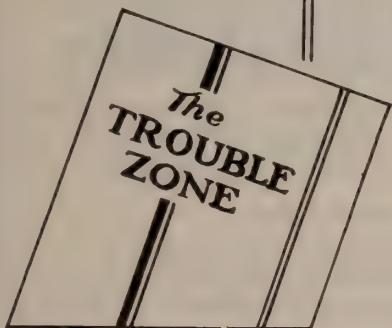
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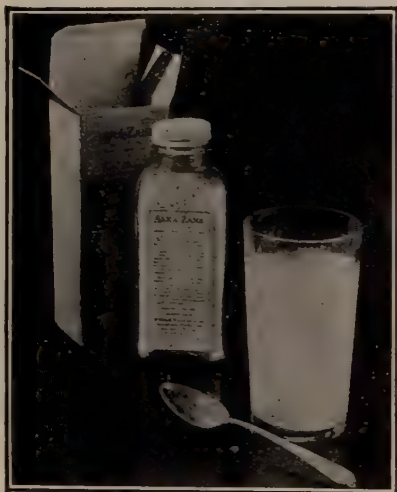
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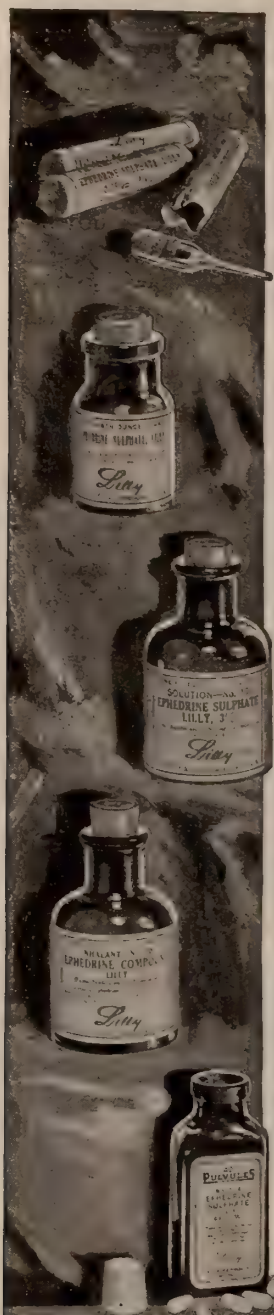
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Storm, Katherine L., M. D., 1701 Diamond St.,  
Philadelphia, Pa. .... 31

## BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 30  
State Bank and Trust Company, Evanston, Ill. .... 42

## BOARDING SCHOOL

Retreat for Boys, Dundee, Ill..... 42

## BOOKS

McDonough & Co., Chicago, Ill.....	36
Miller, Charles Conrad, 32 N. State St., Chicago..	36

## CLINIC

Edmonson Hay Fever Clinic, Carbondale.....	39
Welborn Hospital Clinic, Evansville, Ind.....	39

## FARMS

**Michell Farm, Peoria, Ill..... 31**

## FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago	
Horlick's Malted Milk, Racine, Wis.	11
Livermeal Corporation, 420 Madison Ave., New York City	25
Mead Johnson & Co., Evansville, Ind.	43
McLeod Food Co., Chicago, Ill.	14
Merrell-Soule Co., Syracuse, N. Y.	21
Sims Malt-O-Wheat Co., St. Paul, Minn.	39

## HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill.....	30
---	----

## HOTELS

Hotel Blackstone, New York City..... 37

## INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind.....	6
--	---

## LABORATORY

Abbott Laboratories, North Chicago, Ill.	24
Columbus Laboratories, 31 N. State St.	2
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill.	3
Fischer Laboratories, 25 E. Washington St., Chi- cago, Ill.	38
Harrower Laboratory, 160 N. La Salle St., Chi- cago, Ill.	10
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill.	26
Loeser Laboratory, 22 West 26th St., New York City	14
Metz Laboratory, 122 Hudson St., New York	2
Wilson Laboratories, 4239 S. Western Ave., Chi- cago	25

## MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St.....	36
Illinois Post Graduate Medical School, Chicago..	28
Northwestern University Medical School, Chicago	39
Post Graduate Hospital and Medical School, Chi- cago .....	26

## OPTICIANS

Dow Optical Co., 30 N. Michigan Ave., Chicago..	23
Riggs Optical Co., 5 S. Wabash Ave., Chicago....	40
White-Haines Optical Co., Columbus, Ohio.....	27

## PASTEUR INSTITUTE

Chicago Pasteur Institute..... 37

## PHARMACEUTICALS

Alkalol Co., Taunton, Mass.....	30
American Tobacco Co.....	
Arlington Chemical Co., Yonkers, N. Y.....	33

Armour & Co., Chicago.....	11
Burnham Soluble Iodine Co., Auburndale, Mass.....	37
Carrick, G. W., & Co., 411 Canal St., New York..	3
Ciba Company, Cedar and Washington Sts., New York City.....	44
Denver Chemical Co.....	19
Fellows Medical Mfg. Co., 26 Christopher St., New York.....	23
Haley M-O Co., Geneva, N. Y.....	15
Hoffman-La Roche Chemical Co., New York City..	9
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore.....	26
Intravenous Products Co. of America, 239 4th Ave., New York City.....	40
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo.....	19
Lavoris Chemical Co., Minneapolis, Minn.....	4
Lilly, Eli & Co., Indianapolis, Ind.....	34
Merck and Co., Inc., Rahway, N. J.....	2
New York Pharmacal Association, Yonkers, N. Y.....	25
Nonspi Co., Kansas City, Mo.....	2
Palisade Mfg. Co., Yonkers, N. Y.....	22
Parke, Davis & Co., Detroit, Mich.....	25
E. L. Patch Co., Boston, Mass.....	18
Purdue, Frederick, Co., 135 Christopher St., New York City.....	21
Sharp & Dohme, 41 John St., New York City.....	33
G. H. Sherman, Inc., Detroit.....	15
Smith, Kline & French Co., 105 N. 5th St., Philadelphia, Pa.....	12
Standard Oil Co. (Indiana).....	5
Standard Oil Co. (New Jersey).....	8
Winthrop Chemical Co., 117 Hudson St., New York City.....	16
Wm. R. Warner & Co., 113 W. 18th St., New York City.....	19

## RADIUM

Evansville Radium Institute, Evansville, Ind...	33
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill.....	12
Radium Extension Service, 185 N. Wabash Ave., Chicago .....	42

## STEAMSHIPS

Detroit & Cleveland Navigation Co..... 41

## SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago.....	31
Chicago Sanitarium, 1919 Prairie Ave.....	29
Cincinnati Sanitarium, Cincinnati, Ohio.....	28
Edward Sanitarium, Naperville, Ill.....	27
Kenilworth Sanitarium, Kenilworth, Ill.....	32
Milwaukee Sanitarium, Wauwatosa, Wis. Front Cover	32
Norbury Sanitarium, Jacksonville, Ill.....	32
Oconomowoc Health Resort, Oconomowoc, Wis....	44
Palmer Sanatorium, Springfield, Ill.....	42
Roswell, N. M.....	38
Dr. Stokes Sanatorium, Louisville, Ky.....	40
Waukesha Springs Sanitarium, Waukesha, Wis....	32
Wilgus Sanitarium, Rockford, Ill.....	32
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo.....	26

## SURGICAL INSTRUMENTS AND DRESSINGS

Acme International X-Ray Co., 711 Lake St., Chicago	18
W. A. Baum and Co., 100 Fifth Ave., New York City	
S. H. Camp & Co., Jackson, Mich.	42
Hanovia Chemical & Mfg. Co., Newark, N. J.	13
Huston Bros., 30 E. Randolph St., Chicago	
Mueller Co., V., 1771 Ogden Ave., Chicago	
Sanitarium & Hospital Equipment Co., Battle Creek, Mich.	20
Sharp and Smith, 65 E. Lake St., Chicago	28
Victor X-Ray Corporation, 236 S. Robey St., Chicago	

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### CONTENTS—Continued

SOCIETY PROCEEDINGS	Personals .....	82
Adams County .....	News Notes .....	83
Marriages .....	Deaths .....	84





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THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, Number 6, (Mayo Clinic Number, May, 1928). Octavo of 330 pages with 89 illustrations and complete Index to Volume 11. Per Clinic year, July, 1927, to May, 1928. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The contributors to this number are Doctors Allen, Frank and Edgar, Alvarez, Bannick, Barborka, Braasch, Geo. Brown, Phillip Brown, Constan, Drips, Eusterman, Fortin, Hager, Hartman, Hench, Horton,

Johnson, Keith, Magath, McVicar, Moench, Moersch, Moore, Mussey, Offutt, O'Leary, Parker, Pollock, Randolph, Rentschler, Rountree, Snell, Stacy, Sutherland, Vinson, Weir, Wilder.

FOLKLORE OF THE TEETH. BY LEO KANNER, M.D. New York. The MacMillan Company, 1928. Price \$4.00.

In this work the author has attempted to give an outline of the folklore of the teeth, introducing it at the same time as a new branch of dental science, just as the folklore of medicine is, or should by all means, be considered as a branch of medical science. The author has collected the material from literature,

(Continued on Page 41)





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**THE INTERNATIONAL MEDICAL MANUAL.** Forty-sixth year, 1928. New York. William Wood & Company. Price \$6.00.

The present issue of the Medical Annual does not differ materially from any of its more immediate predecessors. We believe that all the recent improvements have been more than fully maintained and the work brought up-to-date.

**PRINCIPLES AND PRACTICE OF OBSTETRICS.** By Joseph B. DeLee, A.M., M.D. Professor of Obstetrics, Northwestern University Medical School. Fifth Edition, thoroughly revised. Large octavo of 1140 pages with 1,128 illustrations, 201 in colors. Philadelphia and London: W. B. Saunders Company, 1928. Cloth \$12.00 net.

In this edition both text and illustrations have been carefully revised. The chapters on treatment hyperemesis, eclampsia, abruptio, placenta, praevia, ruptura uteri, postpartum hemorrhage, breech presentation, the operation of forceps have been almost completely rewritten and new illustrations supplied.

**A MANUAL OF THE PRACTICE OF MEDICINE.** By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Twelfth edition, revised. 12mo of 657 pages, illustrated. W. B. Saunders Company, Philadelphia and London: 1928. Cloth, \$3.50 net.

This edition has been carefully revised and much new material has been added. The sections dealing with the disorders of the gastric function, peptic ulcer, gastric carcinoma, chronic appendicitis, jaundice, chronic cholecystitis and many other chapters have been rewritten. Many new chapters have been added, bringing the work entirely up to date.

**A TEXTBOOK OF GENERAL BACTERIOLOGY.** By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Ninth Edition, thoroughly revised. Octavo of 778 pages with 191 illustrations. Philadelphia and London; W. B. Saunders Company, 1928, Cloth \$6.00 net.

In this edition the chapter on the parasitic protozoa has been entirely rewritten and several other important sections have been revised and amplified.

New material has been added on the bacteriology of scarlet fever, erysipelas and rheumatic fever. The section on bacteriology of water has been extensively altered.

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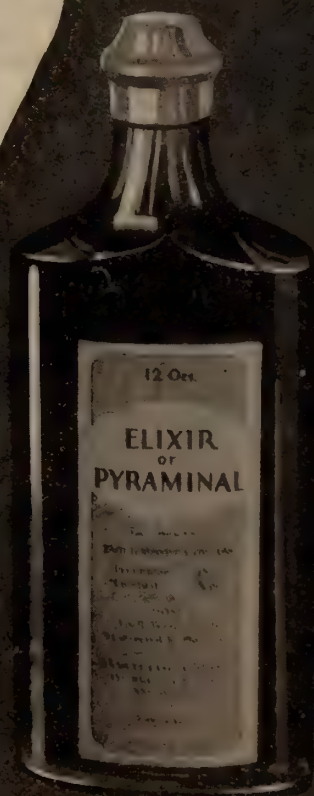
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*Sold in original sealed cartons containing a two-ounce bottle and Mistol dropper*

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a safe  
non-narcotic  
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### CONTENTS—Continued

Private Practice Is at Stake. P. R. Blodgett, M. D., Chicago Heights, Ill.....	151
The Complications of Thyroidectomy. H. Hoyt Cox, M. D., Chicago .....	157
Importance in Recognition of Early Peptic Ulcer. Lowell D. Snorf, M. D., Chicago.....	161

### EDITORIALS

Is University of Illinois in Practice of Medicine?.....	85
Government Medicine.....	86
Women Flay Feminist Bloc.....	87
Educational Committee Achieves Results.....	90
Farm Relief from Medical Standpoint.....	90
Farmers Will Demand State Medicine?.....	92

(Continued on page 26)

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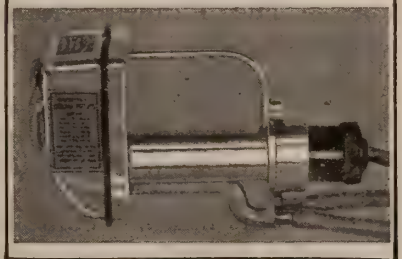
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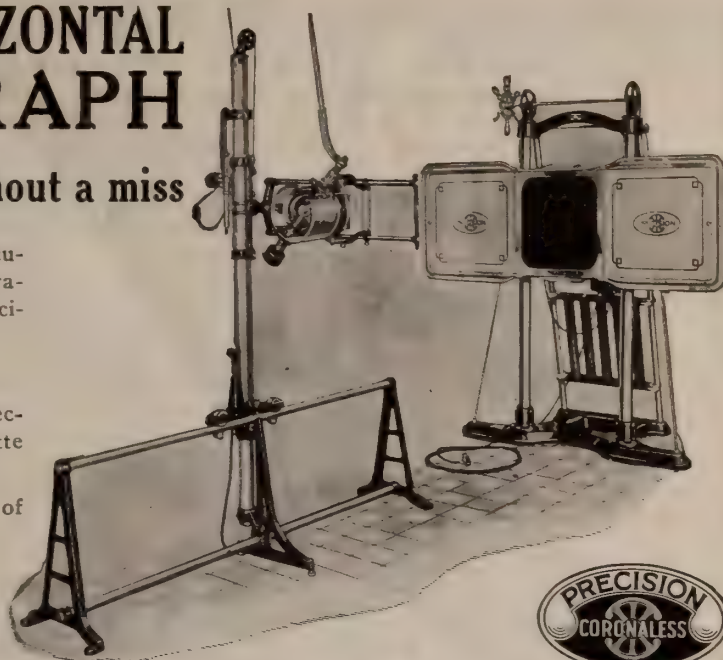
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Antiphlogistine is antiseptic, non-irritating and by virtue of its thermogenetic potency may be relied upon to maintain moist heat longer than any similar preparation now available to the medical profession.



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C. P. Glycerine.....	45.000%	Essence of Menthol..	0.002%
Iodine.....	0.01%	Ess. of Gaultheria...	0.002%
Boric Acid.....	0.1%	Ess. of Eucalyptus..	0.002%
Salicylic Acid.....	0.02%	Mineral Clay.....	54.864%

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# The presence of Vitamin C in unfermented tea



Miura was the first to direct attention to Vitamin C in Japan green tea <sup>1,2</sup>. Experiments to substantiate his findings <sup>3</sup> have suggested that presence of the antiscorbutic vitamin depends upon the fact that the leaves are unfermented.

That oxidation easily destroys Vitamin C is generally accepted. But Japan green tea is prepared by special process to prevent oxidation. The Japanese steam the leaves immediately after picking. This seals the pores and safeguards the tea against fermentation.

In a comparative study of Vitamin C in various teas obtained from ordinary commercial sources, forty guinea pigs were employed. The curative method was followed. To one group was administered a fermented tea, to another a semi-fermented tea, and to a third Japan green tea. Tabulated results show the minimal daily curative dose of Japan green tea to be "apparently between ten and fifteen cc. (about one-half fluid ounce) of a two per cent infusion." The investigator is of the opinion that considering the small amount of solid matter in this infusion "its effectiveness is rather startling."

The Vitamin C in Japan green tea

gains importance in the light of World War observations and recent researches. These suggest the probable widespread existence of "latent scurvy" due to diets deficient in Vitamin C. Absence of manifest scurvy often may not indicate that the Vitamin C supply is adequate for full health and vigor. Habitual low intake of Vitamin C produces a general malaise characterized by these symptoms: sallow, muddy complexion, loss of energy, fleeting pains in joints and limbs, especially in the legs, usually mistaken for rheumatism.

Physicians planning diets to increase the intake of Vitamin C may find in Japan green tea a convenient method. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.

---

<sup>1</sup> Miura, M: *Proc. Japanese Assoc. Agricult. Chem.*, Vol. I, No. 1, October, 1924.

<sup>2</sup> Miura, M: *Publ. Assoc. Tea Merchants*. Feb. 1926.

<sup>3</sup> As this is an advertisement, it has not been possible to give here the names of the American scientists and of the Universities concerned, nor the titles of their reports and publications. These names will be supplied to physicians upon application. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.



## Book Notes

**THE HEART IN MODERN PRACTICE. DIAGNOSIS AND TREATMENT.** BY WILLIAM DUNCAN REID, M. D. 81 Illustrations. Second Edition Revised and Enlarged. Philadelphia & London. J. B. Lippincott Company. 1928. Price \$6.00.

In this edition nine new chapters have been added, many new illustrations have been introduced. These are most electro-cardiograms with some polygrams.

Much new material has been included in the other sections of the book, as for instance the etiology of arterial hypertension and its treatment by diet and hepatic extract; the differential diagnosis between hyperthyroidism with congestive heart failure and congestive heart failure of other causation; the use of iodine in hyperthyroidism; the bismuth therapy of cardiovascular syphilis; the etiology and pathology of rheumatic heart disease, etc.

**NURSES, PATIENTS AND POCKETBOOKS.** BY MAY AYRES BURGESS. New York City. 1928.

This covers a report of a study of the economics of nursing, conducted by the committee on the grading of nursing schools.

**THE SURGICAL CLINICS OF NORTH AMERICA** (Issued serially, one number every other month.) Volume 8, number 3. (Chicago Number—June 1928.) 219 pages with 49 illustrations. Per Clinic year (February 1928 to December 1928. Paper \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this number are Doctors E. Andrews, Geo. L. Apfelbach, Warner S. Bump, V. David, W. J. Gallacher, Isabelle C. Herb, Phil H. Kreuscher, C. L. Marlin, Golder L. McWhorter, O. E. Nadean, Paul Oliver, W. J. Pickett, Kellogg Speed and others.

**THE SURGICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume 8, number 2. (New York Number—April, 1928.) 256 pages with 90 illustrations. Per Clinic year (February, 1928, to December, 1928.) Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this number are Doctors Beer, Colp, Dudley, Erdmann, Findlay, Globus, Gottesman, Gratz, Kramer, Lillienthal, MacKenzie, Moorehead, Pugh, Selinger, Sheehan, Strauss, Wahlig, Wright.

**GNOCOCCAL URETHRITIS in the Male.** For Practitioners. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania. Octavo volume of 357 pages, illustrated. Cloth, \$5.00. Philadelphia and London: W. B. Saunders Company. 1928.

The author says that this is not intended as a text book. In this work no effort has been made to include all the subjects found in modern text books. He tells the story in a way that anybody can understand how to treat Gonorrhea. The author well states the purport (Continued on page 30)

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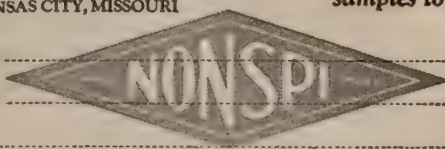
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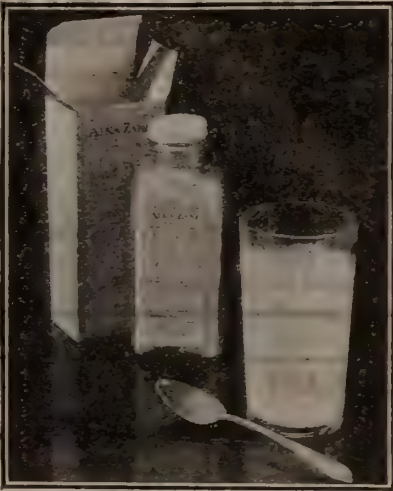
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## Book Notes

(Continued from page 25)

of the books when he says the things I have tried to do is give just a simple, good plan of treatment and what to expect of it.

THE NEW YORK ACADEMY OF MEDICINE LECTURES ON MEDICINE AND SURGERY. First series, 1927, with thirty-nine illustrations. New York. Paul B. Hoeber, Inc. 1928. Price \$5.00.

The first series of practical lectures for the general practitioner arranged by the committee on medical education and given at the New York Academy of Medicine in 1926-1927 met with such favor that the lectures are now published in book form. The work will meet a need which is felt by the profession generally.

GYNECOLOGY. By William P. Graves, M. D., Professor of Gynecology at Harvard Medical School. Fourth edition, thoroughly revised. Octavo volume of 1016 pages, with 562 illustrations, 128 in colors. Philadelphia and London: W. B. Saunders Company. 1928. Cloth, \$10.50 net.

This work has been revised from cover to cover and brought strictly up-to-date. Whole sections have been cut out and completely rewritten; new chapters have been inserted; old material that is retained has received new form from omissions, corrections and additions, to meet modern requirements.

A TREATISE ON DISEASES OF THE HAIR AND SCALP. BY S. DANA HUBBARD, M. D. Illustrated With 77 Engravings and Four Colored Plates. Philadelphia. Lea & Febiger. 1928. Price \$5.50 Net.

In this work the author has brought the main threads of scientific medicine as these relate to the scalp and hair. This work is not intended to be an extensive treatise, but, rather, a carefully compiled practical digest of the subject.

INTERNATIONAL CLINICS. Volume II. Thirty-eighth series. Philadelphia and London. J. B. Lippincott Company. 1928.

This is a quarterly of illustrated clinical lectures especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene and other topics of interest to students and practitioners by leading members of the medical profession throughout the world.

A HANDBOOK OF CLINICAL GYNECOLOGY AND OBSTETRICS. By Rae Thornton La Vake. Illustrated. St. Louis. The C. V. Mosby Company. 1928. Price \$4.00.

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(Continued on page 38)



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# Liver Extract No. 343

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### *Statement*

from the Committee on Pernicious Anemia of the Harvard Medical School to the Council on Pharmacy and Chemistry of the American Medical Association, published in the J.A.M.A., June 30, 1928.

"AFTER THE DISCOVERY of Minot and Murphy that patients with pernicious anemia were greatly benefited by the daily ingestion of large amounts of liver, and after the extraction and preparation by Cohn, and his co-workers of various fractions of liver containing the active principle effective in pernicious anemia, the Committee on Pernicious Anemia of the Harvard Medical School was formed. This Committee undertook to arrange for the preparation of a potent liver extract in the United States and in certain foreign countries; for the evaluation of its clinical potency, and for the study of its properties, not only in pernicious anemia but also in such other conditions as might be influenced by the chemical substances involved.

"To this end the committee has collaborated with a large number of laboratories and clinics in the United States and abroad which have been interested in one or another of the clinical, chemical or biological problems that have arisen.

"The supervision of the manufacturing of a satisfactory liver extract was considered one of the functions of the Committee. The necessity of feeding a preparation to patients with pernicious anemia in order to determine the potency of the substance has restricted the number of preparations that the Committee could adequately study. It has therefore limited its activities to testing one product in the United States, and to exchanging information with foreign scientists who were in a position to supervise production in their own countries.

"The offer of the firm of Eli Lilly and Company, of Indianapolis, to manufacture under the direction of the Committee on Pernicious Anemia, one of the extracts developed in the laboratories of the Harvard Medical School, was accepted more than a year ago. It was important that the commercial extract should be studied in a large number of clinics over a considerable period of time to discover both its quality and the best mode of using it, before it was released for general distribution.

For five months a satisfactory product was manufactured and tested in 13 clinics in the United States. The results with over 100 cases indicated that a standardized product had been obtained, the distribution of which was desirable and warranted. On February 4, 1928, it was accepted by the Council of Pharmacy and Chemistry of the American Medical Association for the New and Non-official Remedies, under the name of 'Liver Extract No. 343' and placed on sale.

"The demand for this product, seemingly largely for purposes other than those for which it was recommended by the Committee on Pernicious Anemia, appears to have been so great as to have interfered with the manufacturing process that had been satisfactorily employed for over five months. The testing of successive preparations of Liver Extract No. 343 in different clinics collaborating with the Committee revealed that certain lots were considerably weaker than the product manufactured for the five months previously.

"Eli Lilly and Company have collaborated with the Committee in every way by withdrawing the defective material from distribution and attempting to discover what changes in practice might have been responsible for the loss in potency. The distribution of all further material was at once discontinued until such time as the production of material of assured strength should be re-established. It was not possible to reclaim all of the material of weak potency. However only a relatively small amount of such material was not withdrawn when the loss of potency was discovered. The material below standard strength was not in distributors' hands until after about March 1st.

"As a result of recent tests, which demonstrated that material of standard strength has again been produced, it is believed that Eli Lilly and Company can recommence distribution of the standard product on a commercial scale within a month. Meanwhile, the Committee has felt that the interests of the community were better served by a temporary if inconvenient return to the use of liver itself by patients with pernicious anemia, rather than by treatment with an unstandardized product of varying potency."

Signed: W. B. CANNON, Chairman    E. P. JOSLIN  
Boston,                                  W. B. CASTLE    E. A. LOCKE  
May 24, 1928                          E. J. COHN        G. R. MINOT

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## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 31

### BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 30  
State Bank and Trust Company, Evanston, Ill. .... 42

### BOARDING SCHOOL

Retreat for Boys, Dundee, Ill. .... 42

### BOOKS

McDonough & Co., Chicago, Ill. .... 36  
Miller, Charles Conrad, 32 N. State St., Chicago.. 36

### CLINIC

Edmonson Hay Fever Clinic, Carbondale. .... 39  
Welborn Hospital Clinic, Evansville, Ind. .... 39

### FARMS

Michell Farm, Peoria, Ill. .... 31

### FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago .... 24  
Horlick's Malted Milk, Racine, Wis. .... 11  
Knox Gelatine Laboratories, Johnstown, N. Y. .... 3  
Livermeal Corporation, 420 Madison Ave., New York City .... 25  
Mead Johnson & Co., Evansville, Ind. .... 43  
Mellin's Food Co., Boston, Mass. .... 14  
Merrell-Soule Co., Syracuse, N. Y. .... 21  
Sims Malt-O-Wheat Co., St. Paul, Minn. .... 39

### HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill. .... 30

### HOTELS

Hotel Blackstone, New York City. .... 37

### INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind. .... 6

### LABORATORY

Abbott Laboratories, North Chicago, Ill. .... ..  
Columbus Laboratories, 31 N. State St. .... 2  
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill. .... ..  
Fischer Laboratories, 25 E. Washington St., Chicago, Ill. .... 38  
Harrower Laboratory, 160 N. La Salle St., Chicago, Ill. .... 10  
Keystone Laboratory .... 39  
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill. .... 26  
Loefer Laboratory, 22 West 26th St., New York City .... 14  
Metz Laboratory, 122 Hudson St., New York. .... 4

### MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St. .... 36  
Illinois Post Graduate Medical School, Chicago.. 28  
Post Graduate Hospital and Medical School, Chicago .... 26  
Tulane University, New Orleans. .... 37

### OPTICIANS

Dow Optical Co., 30 N. Michigan Ave., Chicago.. 23  
Riggs Optical Co., 5 S. Wabash Ave., Chicago. .... 40  
White-Haines Optical Co., Columbus, Ohio. .... 27

### PASTEUR INSTITUTE

Chicago Pasteur Institute. ....

### PHARMACEUTICALS

American Tobacco Co. .... ..  
Arlington Chemical Co., Yonkers, N. Y. .... 37  
Armour & Co., Chicago. .... 11  
Burnham Soluble Iodine Co., Auburndale, Mass. 33  
Carnrick, G. W., & Co., 411 Canal St., New York.. 7  
Ciba Company, Cedar and Washington Sts., New York City .... 44  
Denver Chemical Co. .... 17  
Fellows Medical Mfg. Co., 26 Christopher St., New York. .... 23  
Haley M-O Co., Geneva, N. Y. .... 15  
Hoffman-La Roche Chemical Co., New York City.. 9  
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore .... 26  
Intravenous Products Co. of America, 239 4th Ave., New York City. .... 40  
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo. .... 19  
Lavoris Chemical Co., Minneapolis, Minn. .... 34  
Lilly, Eli & Co., Indianapolis, Ind. .... 2  
Merck and Co., Inc., Rahway, N. J. .... 2  
New York Pharmacal Association, Yonkers, N. Y. .... 25  
Nonspl Co., Kansas City, Mo. .... 22  
Palisade Mfg. Co., Yonkers, N. Y. .... 21  
Parke, Davis & Co., Detroit, Mich. .... 33  
Purdue, Frederick Co., 135 Christopher St., New York City. .... 21  
Sharp & Dohme, 41 John St., New York City. .... 12  
Smith, Kline & French Co., 105 N. 5th St., Philadelphia, Pa. .... 5  
Standard Oil Co. (Indiana) .... 8  
Standard Oil Co. (New Jersey) .... ..  
Winthrop Chemical Co., 117 Hudson St., New York City .... ..  
Wm. R. Warner & Co., 113 W. 18th St., New York City .... 19, 29

### RADIUM

Evansville Radium Institute, Evansville, Ind. .... 33  
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill. .... 12  
Radium Extension Service, 185 N. Wabash Ave., Chicago .... 42

### SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago. .... 31  
Chicago Sanitarium, 1919 Prairie Ave. .... 29  
Cincinnati Sanitarium, Cincinnati, Ohio. .... 28  
Edward Sanitarium, Naperville, Ill. .... 27  
Kenilworth Sanitarium, Kenilworth, Ill. .... 32  
Milwaukee Sanitarium, Wauwatosa, Wis. Front Cover  
Norbury Sanitarium, Jacksonville, Ill. .... 32  
Oconomowoc Health Resort, Oconomowoc, Wis. .... 44  
Palmer Sanatorium, Springfield, Ill. .... 42  
Roswell, N. M. .... 38  
Dr. Stokes Sanatorium, Louisville, Ky. .... 40  
Waukesha Springs Sanitarium, Waukesha, Wis. .... 32  
Wilgus Sanitarium, Rockford, Ill. .... 32  
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo. .... 26

### SURGICAL INSTRUMENTS AND DRESSINGS

Acme International X-Ray Co., 711 Lake St., Chicago .... 15  
W. A. Baum and Co., 100 Fifth Ave., New York City .... 13  
Hanovia Chemical & Mfg. Co., Newark, N. J. .... 13  
Huston Bros., 30 E. Randolph St., Chicago. .... ..  
Mueller Co., V., 1771 Ogden Ave., Chicago. .... ..  
Sanitarium & Hospital Equipment Co., Battle Creek, Mich. .... 20  
Sharp and Smith, 65 E. Lake St., Chicago. .... 28  
Victor X-Ray Corporation, 236 S. Robey St., Chicago .... ..

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### CONTENTS—Continued

#### CORRESPONDENCE

University of Illinois Has Ideal System. Cleaves Bennett.	94
If Doctors Won't Farmers Will. W. D. Chapman.....	95
Basic Science Law—Proverbial Padlock. John R. Neal..	95
Rotarians Crippled Children Clinics. R. R. Ferguson....	95
Newton Bill Same as Sheppard-Towner Re. Entering the Home. John J. O'Reilly.....	96
Don'ts for Doctors. Florence Aird.....	97
American Public Health Association.....	98

Clinical Congress Meeting.....	99
Rabies Menace.....	100

#### NEWS OF THE STATE

Marriages .....	167
Personals .....	167
News Notes.....	168
Death .....	168





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**Book Notes**

(Continued from page 30)

OPERATIVE SURGERY. By J. Shelton Horsley, M. D. With 756 original illustrations. Third edition. St. Louis. The C. V. Mosby Company. 1928. Price \$15.00.

Much new material has been added in this edition, including a new chapter which treats of cicatricial contraction. There have been changes and additions, though the general principles described in the first chapters have not been altered. Among the newer operations described are the operation of the Dandy and Singleton for tick douloureux, the radical phrenicotomy of Felix, the operations of Cutler and Beck on

the heart, the operation of Weeldon for bunion, the operation of McGuire for hypospadias, etc.

EAT, DRINK AND BE HEALTHY. BY CLARENCE W. LIEB, M.D. New York. The John Day Company. Price \$1.50 net.

This is an outline of rational dietetics. It is intended as a simple, readable and rational guide to healthful eating to normal people.

MODERN METHODS OF TREATMENT. By Logan Clendenning, M.D. Second edition. St. Louis. The C. V. Mosby Company. 1928. Price \$10.00.

The changing standards in therapeutics has made necessary a revision of the author's first edition. In  
(Continued on page 41)





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## Book Notes

(Continued from page 38)

this volume there has been added descriptions of the Minot-Murphy diet in pernicious anemia, of scarlet fever anti-toxin, of the para-thyroid hormone, of the ovarian hormone, of ephedrine sulphate, of nevasurol and ammonium chloride in edema, of the malarial treatment nurosyphilis, of lipiodol installations in chronic lower respiratory infections of the metabolism of obesity, etc.

**ADDRESSES ON SURGICAL SUBJECTS.** By Sir Berkeley Moynihan, Bart., President of the Royal College of Surgeons of England. Octavo of 348 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1928. Cloth, \$6.00 net.

The addresses and essays reproduced here first appeared in the *Lancet*, *The British Medical Journal*, *The Practitioner* and *Surgery, Gynecology and Obstetrics*. They represent the work of one who has spent his life in surgery.

**THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1927, Volume XIX.** Edited by Mrs. M. H. Mellish and H. Burton Logie, M. D. Octavo volume of 1330 pages with 412 illustrations. Philadelphia and London: W. B. Saunders Company. 1928. Cloth, \$13.00 net.

In this as in previous volumes the material has been selected from papers written by members of the staff of the Mayo Clinic and the Mayo Foundation to meet the interest of the general surgeons and the diagnosticians.

**CLINICAL MEDICINE.** By Oscar W. Bethea, M.D., Ph.G., Professor of Therapeutics, Tulane Graduate School of Medicine; Professor of Clinical Therapeutics, Tulane School of Medicine, New Orleans, La. Octavo volume of 700 pages. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$7.50 net.

In this volume the author has crystallized the most generally accepted information as to the diagnosis and treatment about one hundred of the most common diseases coming within the province of internal medicine. Unproven theory has been omitted almost entirely.

**DIATHERMY. ITS PRODUCTION AND USES IN MEDICINE AND SURGERY.** By Alkin P. Cumberbatch. Second edition. St. Louis. The C. V. Mosby Company. 1928. Price \$7.00.

This work is intended as a guide to those who wish to learn the principles and practice of a method of treatment which has conclusively proved its value in medicine and surgery during the ten years in which it has been used in this country.

**THE DUODENUM. MEDICAL, RADIOLOGIC AND SURGICAL STUDIES** By Pierre Duval, Jean Charles Roux and Henri Beclere of the Surgical Clinic, Faculty of

Medicine, Paris. Translated by E. P. Quain, M. D. St. Louis. The C. V. Mosby Company. 1928. Price \$5.00.

This book is compiled by a physician, a surgeon and a radiologist and a chemist. It signifies the intimate fusion of the data required by each.

**SYPHILIS.** By Henry H. Hazen, M. D. Second edition. With 165 illustrations including 16 figures in colors. St. Louis. The C. V. Mosby Company. 1928. Price \$10.00.

In many respects this edition represents totally a new book. The chapters on occurrence and economic importance of syphilis of the nervous system, diagnosis, prophylaxis and treatment have been entirely rewritten.

**THE GLANDS REGULATING PERSONALITY.** BY LOUIS BERMAN, M.D. Second Edition revised. New York. The MacMillan Company. 1928. Price \$3.50.

This is a study of the glands of internal secretion in relation to the facts of human nature. Because of the advances in the field of endocrinology since the first edition of this work seven years ago a revised edition was highly essential. In this second edition the subject is brought down to date in a simple and readable form.

**THE EXAMINATION OF PATIENTS.** BY NELLIS B. FOSTER, M.D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University College of Medicine. Second edition, revised. Octavo of 392 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.50 net.

This book should be of great help to the practitioner of medicine. The author has presented in a clear and concise way the methods of determining the facts on which accurate diagnosis rests.

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¶Refinements of Service not to be found in public Sanatoria. ¶Daily Medical Attention and Large Nursing Staff. ¶No Internes or Salaried Physicians. ¶Excellent Cuisine, unusually beautiful Grounds. ¶Thorough Training preparing for Home Care. ¶But one Class of Service permitting no Institutional Aristocracy. ¶Illustrated Circulars on Request.

## Radium Chloride Solution

Ampoules for intravenous use.

Standard Solution in one-ounce bottles for oral administration.

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Systemic infections as are produced by infected teeth, tonsils, sinuses, etc.

### RADIUM EXTENSION SERVICE

Medical & Dental Arts Bldg.

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Telephone—Dearborn 1665





**Safe!**

**More Convenient—  
More Economical—  
Greater Therapeutic Range**

**D**ISTINCTIVE features make the new Battle Creek Super Solar Arc Lamp noteworthy for its safety, efficiency, economy and broad therapeutic range. The automatic magnetic feeding of the carbons insures the largest arc possible with the given current. The current is perfectly utilized, and the use of 12-inch carbons minimizes loss of time and delay.

Ease of adjustment to any desired position and the means of locking the lamp in place make this appliance most satisfactory for general use. Power is variable in the Super Solar Arc. The rays may be concentrated to produce caustic effects, or toned down to reproduce mild sunlight. The combination of ultra-violet, infra-red and other light rays produces a spectrum that most nearly approaches that of natural sunlight.

Solar erythema can be produced with the Battle Creek Super Solar Arc in six to eight minutes, when desirable. Occupying a minimum of space, due to its upright position, the lamp may be easily and quickly moved in adjustment to the patient.

The new Super Solar Arc Lamp employs many advanced features in construction. May we send you our new bulletin, completely describing this efficient appliance?

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**Battle Creek  
Therapeutic  
Appliances  
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A valuable aid in the treatment of chronic conditions. Provides exercise identical with horse-back riding, so frequently prescribed by physicians for health promotion.

**The Battle Creek  
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Type R-I**

Constructed of angle steel frame, welded together, finished in white aseptic enamel throughout measuring 25½ inches wide, 80 inches long, and 30 inches high.

**The Battle Creek  
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A portable electric light bath of great convenience to the general practitioner, as it may be transported to any home where, the necessary electrical connections may be easily made.

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Solarc Bath—  
Type BB**

A very efficient apparatus for general body radiations of light, heat and ultra-violet. Additional units may be added so that one lamp will radiate the adjacent sides of two tables.



# NEUROTIC DISORDERS

WHY LUMINAL? Because small doses will reduce excitement, restlessness and anxiety.

The most agreeable way to administer these small doses is

## ELIXIR of LUMINAL

"LUMINAL", TRADEMARK REG. U. S. PAT. OFF. AND CANADA  
Brand of Phenobarbital

Among the conditions in which it has proved particularly useful are cardiac and gastric neuroses, neurasthenia, nervous disturbances of dysmenorrhea and the menopause—in fact wherever a sedative is advisable.

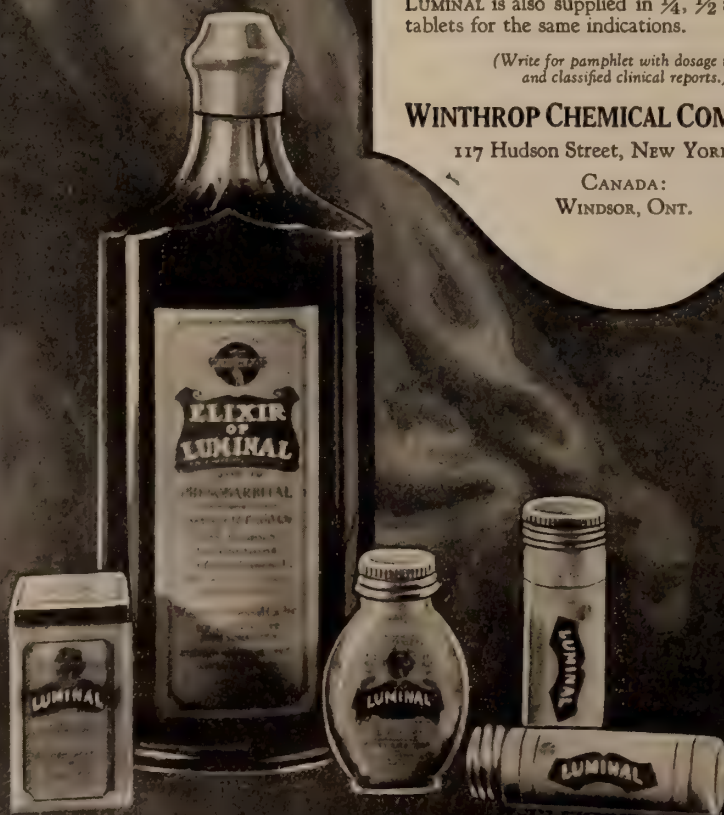
LUMINAL is also supplied in  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $1\frac{1}{2}$  grain tablets for the same indications.

(Write for pamphlet with dosage table and classified clinical reports.)

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117 Hudson Street, New York, N. Y.

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EVERY physician knows that good health during hot weather depends, to a great extent, upon prompt and complete elimination through the intestinal tract.

In cases where such an agent is indicated, Stanolind Liquid Paraffin (Heavy) will be found unusually effective, as it insures easy, comfortable elimination of all fecal matter without overstimulation of the flow of digestive secretions.

Positive results are certain if physicians specify

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Stanolind Liquid Paraffin (Heavy) is a heavy-bodied, water-white mineral oil, refined with great care to remove all deleterious substances. It is not habit-forming since its effect is purely mechanical. Because of its unusually heavy body, seepage is minimized.

Stanolind Liquid Paraffin (Heavy) is obtainable at most drug stores and hospitals. It is sold only in bulk, and is not advertised to the general public.

*Stanolind Laboratories*

**STANDARD OIL COMPANY**

(INDIANA)

*Manufacturers of High Grade Medicinal Oils*

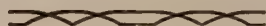
**General Offices: 910 S. Michigan Ave. CHICAGO, ILL.**



# MALPRACTICE SUITS

hold no terrors for the holder of a

## MEDICAL PROTECTIVE CONTRACT



*Unmatched*

COMPLETE COVERAGE

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*Distinctive*

SPECIALIZED SERVICE

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# ASTHENIA and the Fatigue Syndrome

are usually conditions in which a definite pathology cannot be demonstrated.

## Hormotone

has proved its value in treatment,  
through its action in:

*Stimulating cell metabolism,*

*Increasing the respiratory ex-  
change,*

and

*Raising to normal the low  
blood pressure usually attendant  
upon such conditions.*

*Dose: One or two tablets three  
times daily before meals.*



## G. W. CARNRICK CO.

2-24 Mt. Pleasant Avenue

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*Atony of rectum and sigmoid*



*After six months' treatment*

## DYSCHEZIA

A PROMINENT gastro-enterologist has said, "How often our elaborate and costly gastro-intestinal studies aimed at hunting down the cause of a chronic intestinal stasis leaves us with negative results until at the lower end of the alimentary tract the physician's finger elicits the '*a priori*' cause of the patient's trouble." Rectal constipation is very common. Its relief is simple when once it is discovered. Sphincteric stretching or cutting, under a general anæsthetic, is the major therapeutic procedure. But lubrication, by softening the feces and preventing rectal impactions, permits of easy evacuation without mechanical injury to the delicate rectal mucous membrane and without obstructing the arterio-venous circulation in the rectum. Most rectal pathology is probably the result of rectal stasis, and rectal stasis has potentiality for harm both intra-intestinally and extra-intestinally. Chronic irritation of the rectum can only be relieved by lubrication therapy.

The regular use of Nujol minimizes friction over the denuded mucous membrane and allows of epithelization whether in a localized lesion, as in case of a fissure, or in the more generalized lesions of a proctitis.

# Nujol

REG. U.S. PAT. OFF.

## For Lubrication Therapy



Bromide in a delicious hot broth ■ ■

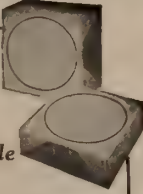
■ ■ ■ ■ ■ free from any taste of

bromide ■ ■ All patients

find Sedobrol 'Roche' pleasing to take ■



Each cube  
contains  
17 grains of  
sodium bromide



### ☛ Dosage ☛

#### For Simple Insomnia:

2 cubes in a cupful of very hot water, late in the afternoon or, with crackers, in lieu of the evening meal.

#### For Nervous Affections:

2 to 4 cubes per day. In nervous indigestion 1 cube may be taken directly with the morning and evening meals, or with every meal, if preferred.

#### In Epilepsy:

Ulrich, director of the Swiss Institute for Epileptics at Zurich, uses 3 to 6 cubes per day. Reprints on the use of Sedobrol in epilepsy in this country as well as in Europe will be sent on request.

### ☛ Try it for ☛

NERVOUS INDIGESTION  
NERVOUS HEADACHE  
HYSTERIA  
MIGRAINE  
SICKNESS OF PREGNANCY  
DYSMENORRHEA  
MENOPAUSE  
SEA-SICKNESS  
ALCOHOLISM  
MORBID EXCITABILITY  
SEXUAL HYPERSTHENIA  
INSOMNIA

**T**WO CUBES to a cupful of piping hot water make this palatable bromide broth physicians and patients alike agree is so effective. From the patient's point of view Sedobrol is simply a savory, nutritious bouillon but hidden within is that very valuable therapeutic agent sodium bromide, in a highly refined form—a harmless and soothing sedative for nervous agitation of all types. Sedobrol cubes are used to marked advantage wherever bromides are indicated.

Unless you try Sedobrol you cannot appreciate the advantage of this unique form of medication, especially in the treatment of unmanageable, apprehensive patients or neurotics with the usual aversion to medicine. They cannot taste the bromide and are not aware that a sedative is being administered unless you care to divulge the secret.

Bromide given in this inviting manner also works much more quickly and there is little chance of nausea or gastric irritation. The 17 grains of sodium bromide which each Sedobrol cube contains provides the salty flavor for the broth in place of table salt. The cube is made of vegetable extractives and condiments—not beef. A cup of Sedobrol in the late afternoon will almost invariably insure a fine night's rest.

Marketed in air-tight metal containers of 10, 20 and 100 cubes. A trial supply will be sent to physicians on request . . . . .

*A*  
simple, safe  
sedative for

NERVOUSNESS

NEURASTHENIA

SLEEPLESSNESS

**SEDOBROL**  
'Roche'

The Hoffmann-La Roche Chemical Works, New York  
Makers of Medicines of Rare Quality  
19 CLIFF STREET



## Run-Down Conditions

Asthenia, subnormal temperature, low blood-pressure and slow convalescence following influenza and other acute infections all call for *adrenal support*. Suitable aid for the depleted adrenals will be found in

*Adreno-Spermin Co.*  
(Harrower)

which combines whole adrenal substance, spermin, and thyroid. The adrenal substance maintains the tonicity of the involuntary muscles, raises the blood-pressure, and overcomes asthenia. Spermin contains a "dynamogenic hormone" and increases oxidation and cellular activity. Thyroid regulates metabolism and is the chief detoxicating agent of the body. The usual prescription is: *R Adreno-Spermin Co. (Harrower). No. C. Sig. 1 sanitablet q. i. d.*



THE HARROWER LABORATORY, INC.  
Glendale, California



# HORLICK'S

Maltose  
and  
Dextrin

## MILK-MODIFIER

contains all the nutritive elements of choice barley and wheat, transformed into a soluble and readily assimilable food by the natural action of malt enzymes.

Horlick's Milk Modifier is non-constipating, producing normal movements with normal frequency.

### SPECIAL INDICATIONS FOR USE:

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2. **In cases where fat intolerance is noted.**
3. **As an adjunct to breast feeding.**
4. **In cases of marasmus or constipation.**

The use of Horlick's Milk Modifier gives the physician unrestricted control of the infant's diet. Samples and information sent on request to physicians only.

**Horlick -- Racine, Wis., U. S. A.**

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The medical profession is secure today in the prestige it has earned. Extraordinary achievement has won it the profound confidence of society. Old woman's talk, family remedies, fear of the physician's bag and the surgeon's scalpel, have little place in the modern home that looks with confidence to its doctor and with almost blind faith to the surgeon.

But what of the materials with which doctors and surgeons work their miracles? *They must have confidence equal to that of their patients in the materials with which they work!*

For a third of a century Armour Laboratory has been collaborating with the medical profession. Because of its vast resources of fresh material, and the scientific thoroughness with which these materials are prepared, Armour Laboratory has long been recognized as "headquarters for medical supplies of animal origin."

Of especial value to modern practitioners are Armour's Suprarenal Substance—Thyroid—Corpus Luteum—Ovarian Substance—Pituitary—Parathyroid.

**ARMOUR AND COMPANY**

Chicago



## Thirty Times Tested

More and more the modern clinician appreciates the profound physiologic importance of calcium and phosphorus. More and more, too, he is insisting that these elements be administered in their most absorbable form and in a state of exceeding purity.

## ESKAY'S NEURO PHOSPHATES

### SMITH, KLINE & FRENCH CO.

105-115 No. 5th Street,  
Philadelphia, Pa.

Established 1841

Manufacturers of  
*Eskay's Food*  
*Eskay's Suriphen*

contains calcium and phosphorus as a calcium acid glycono-phosphate, their most soluble and absorbable form. Moreover, its ingredients are subjected to 30 tests for identity, purity, quality and strength, and every lot of the preparation is standardized to insure absolute uniformity.

*Eight and Sixteen Ounce Bottles*

### CONTENTS—Continued

Determination of Permanent Disability Following Head Injuries. Ralph M. Carter, M. D., Green Bay, Wis....	231
Interpretation of a Doubtful Wassermann Reaction. Frank B. Lusk, M. D., Chicago.....	237
Etiology and Treatment of the Neuroses. Mandel Sherman, M. D., Washington, D. C.....	240

### EDITORIALS

Why Should Whim of Prejudice Control?.....	169
Councilor District Picnic .....	170
Illinois Man President-Elect of A. M. A.....	170
Another State Society Medical History.....	171
A. M. A. Meeting at Minneapolis.....	172
Nurses Plentiful .....	176
Greene County Endorses Doctor Smith.....	176
Unfair Competition of Hospitals.....	177

(Continued on page 38)

## RADIUM RENTAL SERVICE

BY

### THE PHYSICIANS RADIUM ASSOCIATION of CHICAGO, Inc.

Incorporated under the laws of Illinois, not for profit, but for the purpose of making radium available to Physicians to be used in the treatment of their patients. Radium loaned to Physicians at moderate rental fees, or patients may be referred to us for treatment if preferred.

Careful consideration will be given inquiries concerning cases in which the use of Radium is indicated

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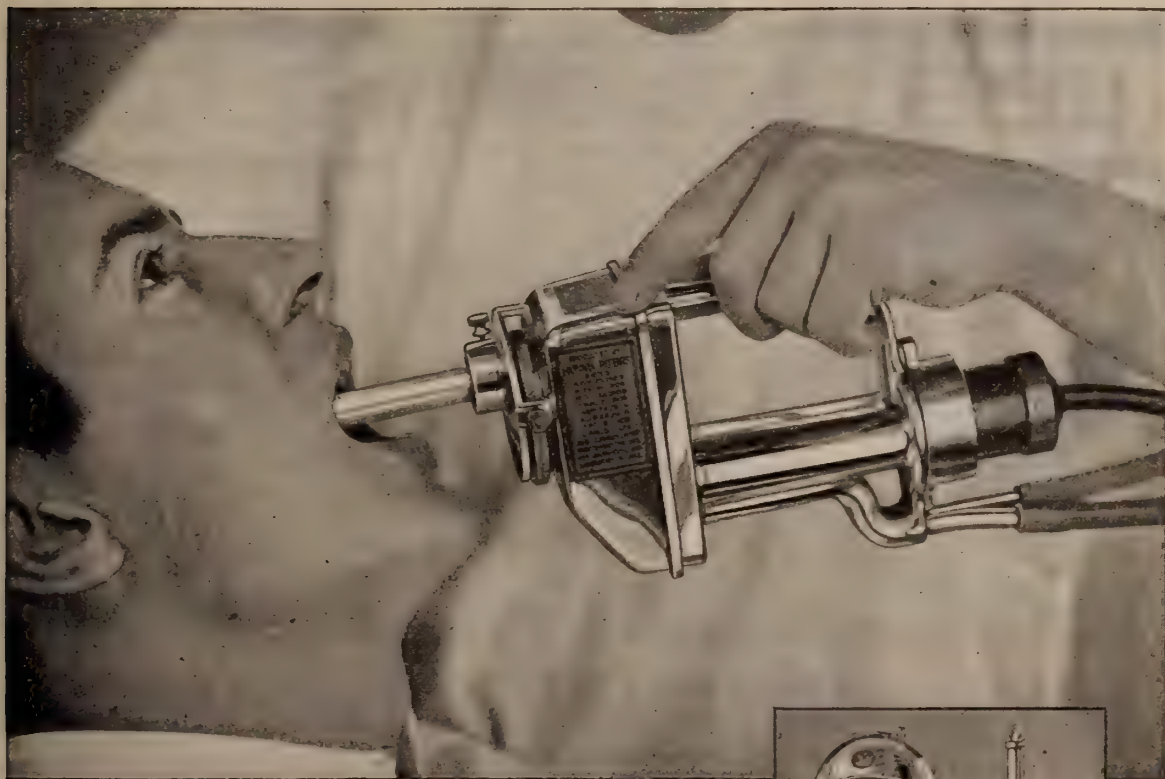
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*Clinical reports on the treatment of Hay Fever and Asthma now available*

## .. How important is the spectogram in the purchase of an ultra-violet lamp?

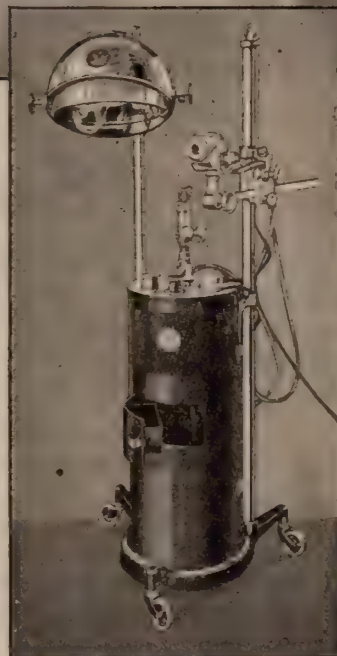
A spectogram shows only the *quality* of ultra-violet transmitted—not the quantity, not the intensity. And for therapeutic purposes, the *quantity* is of the utmost importance.

You know it is wise to use a good quality of oil in your motor, but you know also that even the best oil is ineffective unless you use enough of it. So it is with ultra-violet.

And that is one great reason that physicians for years have insisted on having the Hanovia Quartz Lamp. Hanovia Lamps produce both the necessary quality and quantity of ultra-violet rays, and produce them at the greatest efficiency—at the lowest cost.

\* \* \*

Timely clinical literature, especially regarding Hay Fever and Asthma, is available. The coupon below will bring it to you promptly.



*The combined Alpine Sun and Kromayer model — adapted to general irradiation and specific application*

# ALPINE SUN LAMP

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Gentlemen:—Please furnish me, without obligation, reprints of your authoritative papers upon the use of quartz light in the treatment of

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THE COUNCIL DECREES  
THAT INTRAVENOUS SOLUTIONS OF  
DEXTROSE (Glucose)  
MUST CONTAIN NO PRESERVATIVES

Jr. A.M.A., May 27, 1928

We have for years claimed that cresol and other obnoxious preservatives are out of place in such serious pharmaceuticals as intravenous solutions. Manufacturers of cheap imitations of LOESER'S INTRAVENOUS SOLUTIONS OF GLUCOSE employed the easy cheap method of using preservatives. Thoughtful physicians will specify glucose solutions prepared on a basis of research and studiously developed laboratory methods, insuring a pure solution and safety.

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*A standardized, sterile, stable solution of C. P. dextrose 50% weight to volume in hermetically sealed 20 c.c. and 50 c.c. ampoules of Jena Glass.*

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## Summer Diarrhea

The following formula provides a means of supplying the principal fuel utilized in the body for the production of heat and energy and furnishes immediately available nutrition well suited to protect the proteins of the body, to prevent rapid loss of weight, to resist the activity of putrefactive bacteria, and to favor a retention of fluids and salts in the body tissues:

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**Water** (boiled, then cooled)

**4 level tablespoonfuls**

**16 fluidounces**

While the condition of the baby will guide the physician in regard to the amount and intervals of feeding, the usual custom is to give one to three ounces every hour or two until the stools lessen in number and improve in character. The food mixture may then be gradually strengthened by substituting one ounce of skimmed milk for one ounce of water until the amount of skimmed milk is equal to the quantity of milk usually employed in normal conditions. Finally the fat of the milk may be gradually replaced, but as milk fat is likely to be digested with much difficulty after an attack of diarrhea it is good judgment to continue to leave out the cream until the baby has fully recovered.

*Further details in relation to this subject are set forth in a pamphlet entitled, "The Feeding of Infants in Diarrhea", and in our book, "Formulas for Infant Feeding". This literature will be sent to physicians upon request.*

**Mellin's Food Co.,**

**177 State St.,**

**Boston, Mass.**



HALEYS M-O

HALEYS M-O

HALEYS M-O

## Professionally Persona Grata

Steadily progressive professional endorsement, evidences the practical efficiency of a stable, uniform and palatable emulsion of Milk of Magnesia and Mineral Oil.

### HALEY'S M-O Magnesia Oil

combines and exerts the lubricant, toxin-solvent, laxative and antacid properties of its ingredients, commending it therefore to the discriminating physician in HYPERCHLORHYDRIA, PYROSIS GASTRIC or DUODENAL ULCER, STASIS: INTESTINAL FERMENTATION, COLITIS, CONSTIPATION, AUTOTOXEMIA, HEMORRHOIDS, AFTER OPERATION, DURING PREGNANCY AND MATERNITY, and in infancy, childhood and old age.

**M-O IS AN EFFECTIVE ANTACID MOUTHWASH**

*Generous sample sent on request.*

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For Sale: A Victor X-Ray machine of late model. Selling because I have joined a clinic and have no further use for the apparatus as the clinic has everything to be used in the medical work. —Edward Hugh Banker, M. D., Aurora National Bank Bldg., Aurora, Ill.

FOR SALE: Splendid opportunity to purchase a finely established Eye, Ear, Nose and Throat practice in a prominent city of Illinois. Write M. O. C., care ILLINOIS MEDICAL JOURNAL.

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Asnoe's Calls for Physicians: (A) Young single trustworthy physician wanted to take charge of office in Illinois town of 500. Salary \$200 to start. (B) Physician and surgeon wanted to take charge of 35-bed Illinois hospital on percentage basis. No. 2083, Aznoe's National Physicians' Exchange, 30 North Michigan avenue, Chicago.

#### A DOCTOR'S PRAYER

To live, to learn;  
And find each close of day,  
Myself a little nearer truth,  
A little farther on my way.

A little life,  
But give me, God, the pow'r  
To conquer self and all the doubts  
That rise from hour to hour.

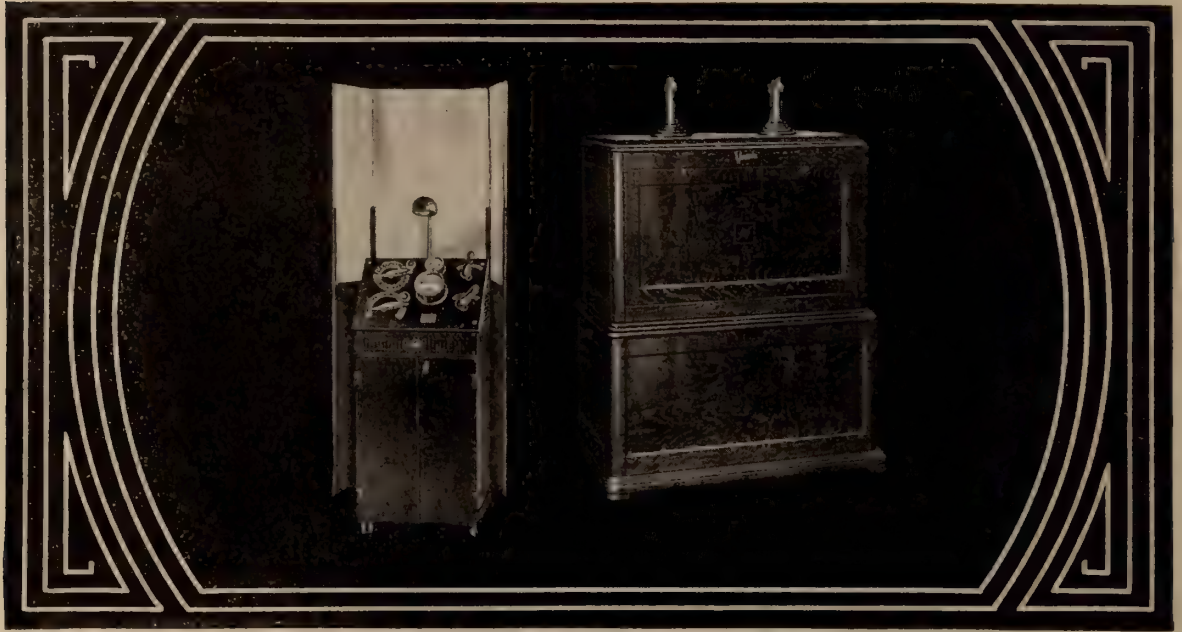
And give me strength,  
When problems try my soul,  
To know the right and do the right  
With honesty my goal.

Nor let me fail  
To do the best I can  
To overcome earth's greatest curse,  
The base ingratitude of man.

—H. Edwin Lewis, M. D.

#### HOSPITAL LOCATION WANTED

Aznoe's have buyer for hospital in good county seat town of 5,000 to 20,000; or will build where hospital is needed. Illinois or Wisconsin. Must yield \$20,000 to \$30,000 a year. Will invest necessary amount. No. 2084, Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago.



## Who Would Trade in a Snook?

An extract from a report by a Victor representative, following his call on one of the largest clinic in the country:

"I just returned from ——— clinic and find the Snook Transformer that was installed in 1924 grinding out as strongly as ever. On Tuesday they ran two hundred chests, which called for four hundred exposures.

"I want to call your special attention to their 100 M. A. Coolidge Tube which they have been using on their Snook machine not quite a month. Radiographs of 3695 patients, or a total of 7308 exposures, were made with this tube and it is still going strong."

To give such consistent service a machine must be correct in design.

A FEW months ago a Victor representative called on a physician who for several years had been using a Snook machine in his completely equipped X-ray laboratory.

This physician, being successful both professionally and financially, had come to the conclusion that inasmuch as he turns in his auto every other year or so, to get the advantages of the latest model, it was high time that he turned in his Snook for the same reason. The idea was soon dispelled, however, when the doctor was informed that even though he had purchased his Snook ten years ago, it would be equal to all demands of present-day technic in radiographic diagnosis.

The Snook stands alone in this respect, and users in all parts of the world attest to the economy of their original purchase, also to the advantages in having a machine with which they can produce radiographic results second to none, and continue to do so consistently.

There is only one SNOOK!

## VICTOR X-RAY CORPORATION

Manufacturers of the Coolidge Tube and complete line of X-Ray Apparatus



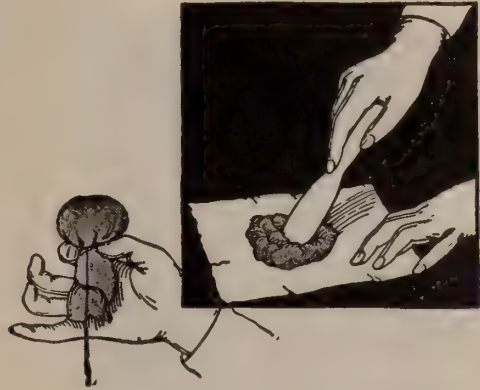
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IS OF SPECIAL SERVICE BY CAUSING, ON ACCOUNT OF ITS MARKED HYGROSCOPIC PROPERTY, AN ABUNDANT SEROUS TRANSUDATION

**A**NTIPHLOGISTINE with its 45% c.p. glycerine is also ideally adapted for the vaginal tampon, combining the much needed mechanical support with the *prolonged* glycerine action. Leading obstetricians and gynecologists know of its practical value in all those cases where

prompt depletion is a paramount consideration. Antiphlogistine is antiseptic, non-irritating and by virtue of its thermogenetic potency can be relied upon to generate and maintain moist heat *longer* than any similar preparation now available to the medical profession.

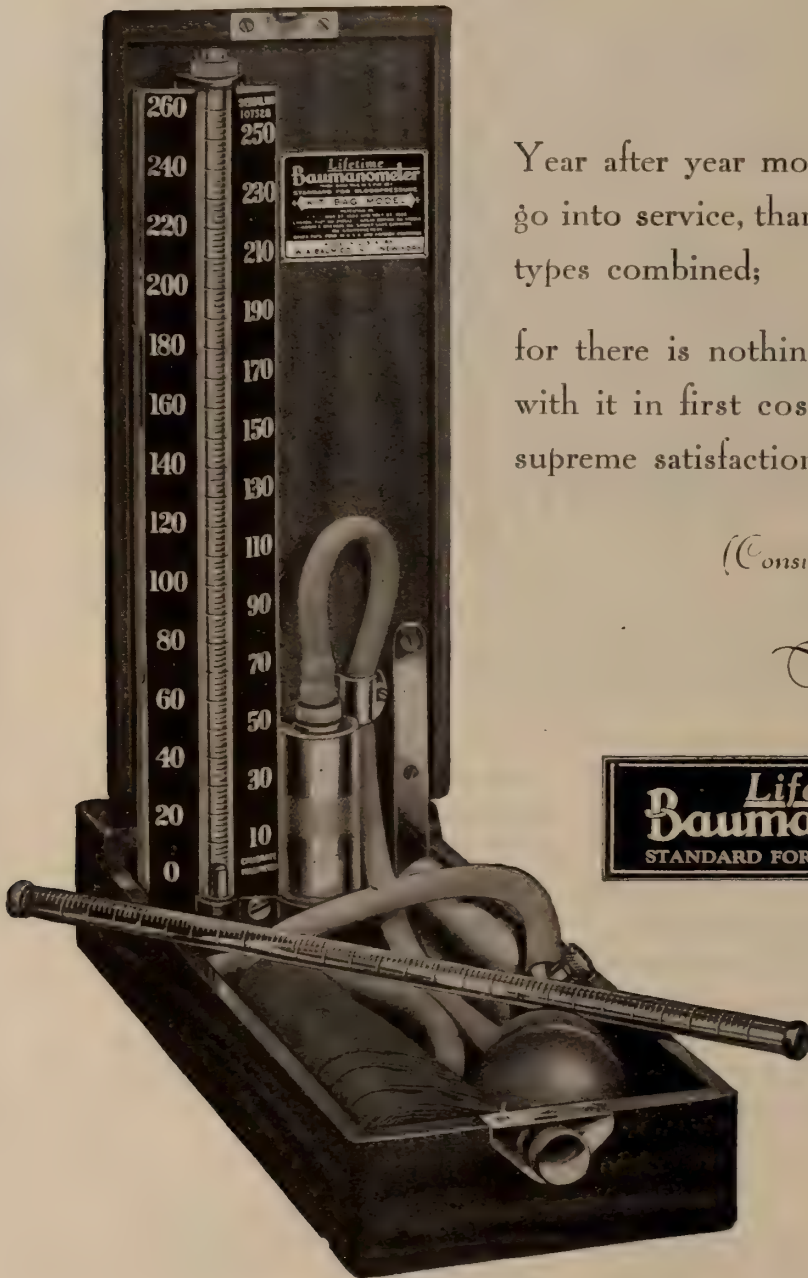
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Iodine.....	0.01 %	Essence of Gaultheria ..	0.002 %
Boric Acid.....	0.1 %	Essence of Eucalyptus..	0.002 %
Salicylic Acid.....	0.02 %	Mineral Clay.....	54.864 %

Our Booklet: "Pregnancy—Its Signs and Complications," together with sample gladly mailed to the physician upon request.



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# When the Enfeebled Stomach Revolts

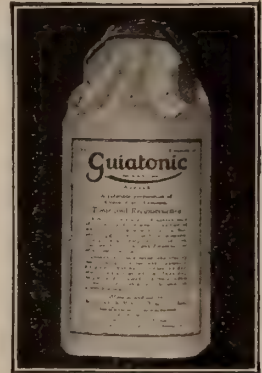
at drugs and emulsions, and yet a reconstructive tonic is essential, prescribe Guiatonic.

A carefully balanced general systemic tonic, Guiatonic possesses the unusual additional advantage of being acceptable to the most delicate digestive system, and stimulating the processes of food assimilation.

Indicated wherever a tonic is needed.

## Guiatonic

*A generous trial quantity free upon request. William R. Warner & Company, Inc., Manufacturing Pharmacutists since 1856. 113-123 West 18th Street, New York City*



A palatable preparation of special salts of guaiacol and creosote which may be freely given to the weakest patient, without fear of gastric disturbance. It contains no narcotics.

Indicated in all depressed or debilitated conditions, or whenever a tonic is required.

## Why Doctors Are Turning to This Form of Cod Liver Oil

TOO many persons in this urban civilization are on the borderline between sickness and health. They lack sufficient sunshine and proper diet. They are chronically "fagged", if not actually anemic, the easy prey of infections. What they need to restore strength and vigor is cod liver oil. But doctors often hesitate to prescribe C. L. O. for adults, because of its disagreeable taste.

Now, physicians everywhere are welcoming the discovery of a method of extracting the active factors of cod liver oil which completely eliminates the obnoxious fishy taste and yet preserves the potency of the original oil, gram for gram.

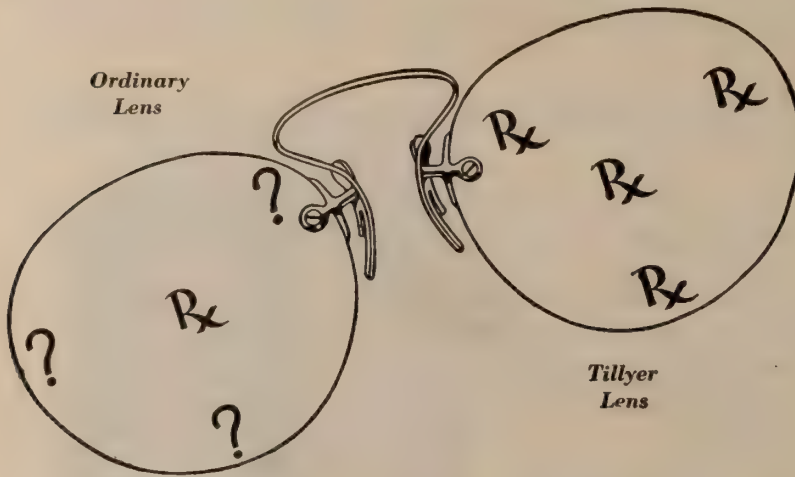
The best known of such extracts is Cord. Ext. Ol. Morrhuæ Comp. (Hagee), which employs the new method generally accepted by scientists. To the concentrate is added tonic glycerophosphates of sodium and calcium salcylic acid, and a pleasant taste. Since all fatty parts have been removed, Hagee's Cordial of the Extract of Cod Liver Oil tastes good, can be administered over long periods, and is readily assimilated by infants and children as well as adults.

Send for full sized sample bottle, formula, and literature.

KATHARMON CHEMICAL COMPANY, Dept. J  
101 N. Main St., St. Louis, Missouri

## Cord. Ext. Ol. Morrhuæ Comp. (Hagee)

*Dispensed by all druggists in 16 oz. bottles*



## TO OCULISTS:

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## Book Notes

**THE MEDICAL CLINICS OF NORTH AMERICA.** Volume 12. Number I. Chicago Number. July, 1928. Philadelphia and London. W. B. Saunders Company.

Contributors to this number are Drs. Abt, Berman, Calvin, Carr, E. F. Foley, Gerstley, Glasberg, Hamill, Heumann, Jaffe, Keeton, Kerr, Koessler, Birch, Meyer, Pilot Pollock, Portis, Richter, Singer, Sutton, Taub, Unger, etc.

**THE OPIUM PROBLEM.** By Charles E. Perry, M. D., and Mildred Pellens, for the Committee on Drug Addictions in Collaboration with the Bureau of Social Hygiene, Inc., 370 7th Ave., New York. 1928.

The chief value of this publication will be to stimulate a wider general and scientific interest in the problem, to acquaint those potentially or actually interested with some idea of the different phases of the problem and of various theories which so far have been elaborated, to suggest through its review of existing records other and broader fields for study and research, and to supply those who may wish to undertake intensive study with a useful bibliography.

This work is a compilation of views of many different authors and has brought into one volume the most important of the recent current literature on the subject. It should prove useful to students and others interested in the medico-social problems involved in the chronic use of opium. It represents a careful search of, and selection from, a very extensive bibliography.

**OBSTETRICAL NURSING.** By Carolyn Conant Van Blarcom, R. M., with Foreword by J. Whitridge Williams, M. D. Second edition revised with 216 illustrations and 10 charts. New York. The MacMillan Company. 1928. \$3.00.

A text book on the nursing care of the expectant mother, the woman in labor, the young mother and her baby.

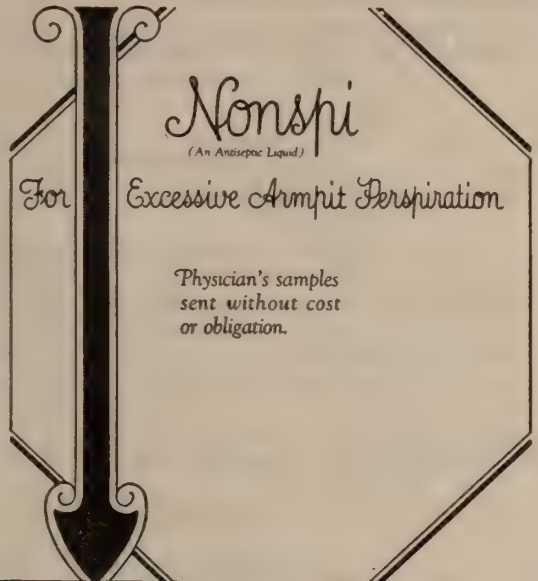
**THE BLOOD PLASMA IN HEALTH AND DISEASE.** By J. W. Pickering, D. Sc. (London). New York. The MacMillan Company, 1928. \$4.25.

The object of this series of monographs is to provide a medium by which the knowledge collected may become generally available. The author's intention is that so far as possible the work should be of value not only to the research workers but also be of practical use to the clinicians.

**DIABETIC MANUAL FOR PATIENTS.** By Henry J. John, M. D. St. Louis. The C. V. Mosby Company. 1928. Price \$2.00.

In this manual Dr. John gives a simple explanation of the underlying cause of diabetes and careful, explicit directions for its treatment, which, while warning the patient of its constant need for medical super-

(Continued on page 32)



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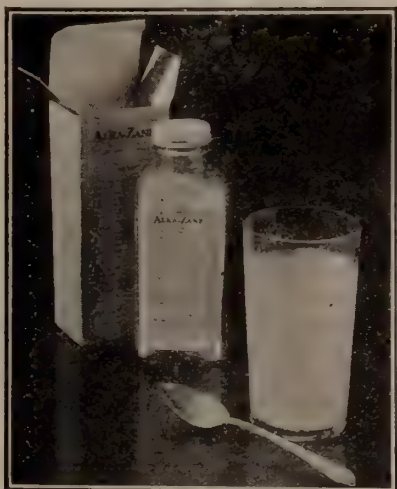
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## Book Notes

(Continued from page 27)

vision, will nevertheless make him confident of his own ability to care for himself.

BACTERIOLOGY FOR NURSES. By Charles F. Carter, M. D. Illustrated. St. Louis. The C. C. Mosby Company. 1928. Price \$2.25.

The purpose of the author in compiling this work has been to prepare a treatise, the subject matter of which would be presented in accordance with the outline prepared by the committee on education of the National League of Nursing Education.

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. By Percy Hall. England. With introductions by Sir Henry Gauvain, M. D., and Leonard E. Hill, M. B. (London). Third edition. St. Louis. 1928. The C. V. Mosby Company. Price \$4.50.

RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE. By W. McKim Marriot, M. D. Illustrated. St. Louis. The C. V. Mosby Company. 1928. Price \$2.50.

It is the purpose of these lectures to summarize present knowledge concerning certain important phases of chemistry and to point out, in so far as possible, the clinical applications of chemical principles.

BLOOD AND URINE CHEMISTRY. By R. V. H. Grad-

(Continued on page 45)



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Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 33

### BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 32  
State Bank and Trust Company, Evanston, Ill.... 44

### BOOKS

McDonough & Co., Chicago, Ill..... 38  
Miller, Charles Conrad, 32 N. State St., Chicago.. 38

### CLINIC

Edmonson Hay Fever Clinic, Carbondale..... 41  
Welborn Hospital Clinic, Evansville, Ind..... 41

### FARMS

Michell Farm, Peoria, Ill..... 33

### FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago ..  
Horlick's Malted Milk, Racine, Wis..... 11  
Knox Gelatine Laboratories, Johnston, N. Y. ....  
Livermeal Corporation, 420 Madison Ave., New York City ..... 27  
Mead Johnson & Co., Evansville, Ind..... 47  
Mellin's Food Co., Boston, Mass..... 14  
Merrell-Soule Co., Syracuse, N. Y..... 23  
Sims Malt-O-Wheat Co., St. Paul, Minn..... 41

### HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill. .... 32

### HOTELS

Hotel Blackstone, New York City..... 39

### INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 6

### LABORATORY

Abbott Laboratories, North Chicago, Ill.....  
Columbus Laboratories, 31 N. State St..... 2  
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill. ....  
Fischer Laboratories, 25 E. Washington St., Chicago, Ill. .... 40  
Harrower Laboratory, 160 N. La Salle St., Chicago, Ill..... 10  
Kreystone Laboratory..... 41  
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill. .... 23  
Loesser Laboratory, 22 West 26th St., New York City ..... 14  
Metz Laboratory, 122 Hudson St., New York.....

### MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St..... 38  
Illinois Post Graduate Medical School, Chicago.. 30  
Post Graduate Hospital and Medical School, Chicago .. 28  
Tulane University, New Orleans..... 15

### OPTICIANS

American Optical Co., Southbridge, Mass..... 20  
Dow Optical Co., 30 N. Michigan Ave., Chicago.. 25  
Riggs Optical Co., 5 S. Wabash Ave., Chicago.... 42  
White-Haines Optical Co., Columbus, Ohio..... 29

### PASTEUR INSTITUTE

Chicago Pasteur Institute..... 32

### PHARMACEUTICALS

American Tobacco Co..... 43  
Arlington Chemical Co., Yonkers, N. Y..... 39  
Armour & Co., Chicago..... 11  
Burnham Soluble Iodine Co., Auburndale, Mass.. 35  
Carrick, G. W., & Co., 411 Canal St., New York.. 7  
Ciba Company, Cedar and Washington Sts., New York City ..... 48  
Denver Chemical Co..... 17  
Fellows Medical Mfg. Co., 26 Christopher St., New York ..... 25  
Haley M-O Co., Geneva, N. Y..... 15  
Hoffman-La Roche Chemical Co., New York City.. 9  
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore ..... 28  
Intravenous Products Co. of America, 239 4th Ave., New York City..... 42  
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo..... 19  
Lavis Chemical Co., Minneapolis, Minn..... 22  
Lilly, Eli & Co., Indianapolis, Ind..... 36  
Merck and Co., Inc., Rahway, N. J..... 2  
New York Pharmacal Association, Yonkers, N. Y.. 27  
Nonspl Co., Kansas City, Mo.....  
Pallside Mfg. Co., Yonkers, N. Y..... 24  
Parke, Davis & Co., Detroit, Mich..... 40  
Patch, E. L., Co., Boston, Mass.....  
Purdue, Frederick, Co., 135 Christopher St., New York City ..... 23  
Sharp & Dohme, 41 John St., New York City..... 35  
Smith, Kilne & French Co., 105 N. 5th St., Philadelphia, Pa..... 12  
Standard Oil Co. (Indiana)..... 5  
Standard Oil Co. (New Jersey)..... 8  
Winthrop Chemical Co., 117 Hudson St., New York City ..... 4  
Wm. R. Warner & Co., 113 W. 18th St., New York City ..... 19, 26, 31

### RADIUM

Evansville Radium Institute, Evansville, Ind... 35  
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill..... 12  
Radium Extension Service, 185 N. Wabash Ave., Chicago ..... 44

### REFRIGERATORS

Cooper, Jr., R., Inc., 120 S. La Salle St., Chicago. 21

### SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago ..... 33  
Chicago Sanitarium, 1919 Prairie Ave..... 31  
Cincinnati Sanitarium, Cincinnati, Ohio..... 30  
Edward Sanitarium, Naperville, Ill..... 29  
Kenilworth Sanitarium, Kenilworth, Ill..... 34  
Milwaukee Sanitarium, Wauwatosa, Wis. Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 34  
Oconomowoc Health Resort, Oconomowoc, Wis... 48  
Palmer Sanitarium, Springfield, Ill..... 43  
Roswell, N. M..... 40  
Dr. Stokes Sanitarium, Louisville, Ky..... 42  
Waukesha Springs Sanitarium, Waukesha, Wis... 34  
Wilgus Sanitarium, Rockford, Ill..... 34  
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo..... 28

### SURGICAL INSTRUMENTS AND DRESSINGS

W. A. Baum and Co., 100 Fifth Ave., New York City ..... 18  
Hanovia Chemical & Mfg Co., Newark, N. J..... 13  
Huston Bros., 30 E. Randolph St., Chicago.....  
Mueller Co., V., 1771 Ogden Ave., Chicago.....  
Sanitarium & Hospital Equipment Co., Battle Creek, Mich..... 3  
Sharp and Smith, 65 E. Lake St., Chicago..... 30  
Victor X-Ray Corporation, 236 S. Robey St., Chicago ..... 16

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### CONTENTS—Continued

#### CORRESPONDENCE

Big Meeting—Small Town. H. M. Camp.....	180
Farmer Has Deserted Small Town. P. R. Howard.....	181
Cook County Physicians and the Coroner's Office. Thomas P. Foley .....	181
County Health School Superfluous .....	182
Society Explains to Mayor Klenk.....	183
American Public Health Association Meeting.....	184
American College of Surgeons' Meeting.....	186
Inter-State Post Graduate Assembly Program.....	186

#### SOCIETY PROCEEDINGS

Christian County .....	245
------------------------	-----

#### NEWS OF STATE

Marriages .....	245
Personals .....	245
News Notes .....	246
Deaths .....	248





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## Book Notes

(Continued from page 32)

wohl, M. D. With 117 illustrations and 4 color plates. St. Louis. The C. V. Mosby Company. 1928. Price \$10.00.

This volume is intended to be a text book for laboratory workers and practitioners of medicine. The methods used are set forth clearly, are standard and up-to-date.

DISEASES OF THE GALL BLADDER AND BILE DUCTS. By Evarts Ambrose Graham, M. D., Warren Henry Cole, M. D., Glovert H. Cobher, M. D., and Sherwood Moore, M. D. Illustrated with 224 engravings and 8 color plates. Philadelphia. Lea & Febiger. 1928. Price \$8.00.

This book is intended for practitioners and students. The authors have endeavored to cover the subject in a systematic way with particular emphasis on much of the newly discovered knowledge of the gall bladder. The authors have assembled much of the newer literature on the subject which will serve as a convenient guide to the large amount of work which has been done on the gall bladder and bile-ducts in recent years.

CONSTITUTIONAL INADEQUACIES. By Nicola Pende, M. D. Translated by Sante Naccarati, M. D., with a foreword by George Draper, M. D. Illustrated.

Philadelphia. Lea & Febiger. 1928. Price ??

This work is intended as an introduction to the study of abnormal constitutions.

MODERN MEDICINE. ITS THEORY AND PRATICE IN ORIGINAL CONTRIBUTIONS BY AMERICAN AND FOREIGN AUTHORS. Edited by Sir William Osler, Bart, M. D. Third edition, thoroughly revised. Re-edited by Thomas McCrae, M. D., assisted by Elmer H. Funk, M. D. Volume VI.

DISEASES OF THE NERVOUS SYSTEM—DISEASES AND ABNORMALITIES OF THE MIND. Illustrated. Philadelphia. 1928. Lea & Febiger. Price \$9.00.

The contributors to this number are Drs. Lewellys F. Barker, Edwin Branwell, Charles W. Burr, E. Farquhar Buzzard, L. Pierce Clark, Joseph Collins, Harvey Cushing, Gorden M. Holmes, J. Ramsey Hunt, Smith Ely Jelliffe, Daniel J. McCarthy, Colin K. Russell, Bernard Sachs, E. E. Southard, William G. Spiller, Edwin A. Strecker, C. P. Symonds, Edward Wyllys Taylor, Henry M. Thomas, Henry M. Thomas, Jr.

CUSHNY'S PHARMACOLOGY AND THERAPEUTICS. By Arthur R. Cushny, M. D. Ninth edition, thoroughly revised. By C. W. Edmunds, M. D., and J. A. Gun, M. D. Illustrated with 73 engravings. Philadelphia. Lea & Febiger. 1928. Price \$6.00.

In this edition the authors have brought the subject

matter in line with the tenth edition of the United States Pharmacopoeia. In this respect the work is up to date.

**THE TREATMENT OF DIABETES MELLITUS.** By Elliott J. Joslin, M. D. Fourth edition, enlarged, revised and rewritten. Illustrated. Philadelphia. Lea & Febiger. 1928. Price ??

The increasing knowledge of the subject of diabetes has made it imperative that this volume should be much larger than former editions. The section on children has grown to fifty pages because children now constitute a vital problem for the doctor's care. The author has emphasized the details that hurt the diabetic and what helps him and each instance he tells how one state can be avoided and the other secured as demonstrated by the practices followed in the care of his own patients.

### MATERNAL PATERNALISM

Here is a typical case of "uplift," the end-results are generally uniform with an over-increasing mania to reach out farther and farther until the entire community is encompassed. Too, this sort of thing has the sanction of government, for the following is taken from publicity sheets issued to the press of the United States by the U. S. Children's bureau:

"The New York Maternity Center association takes care of pregnant women and last year—1926—it was so successful in this work that not a single one of the 2,000 mothers cared for died as result of childbirth. If this group had shown the same maternal death rate as that for the city in general, 8 or more of the 2,000 would have lost their lives. The association formerly gave care exclusively to poor women, but *last year it offered its services to mothers of the professional and salaried classes and nearly 200 such mothers took advantage of them.*"

Of course, your own interpretation can be placed on the statement of "took advantage of them."

The statement was carried under the caption of "Child-bearing need not be a dangerous occupation."

O. J. M. J.

### A TAX ON SICKNESS

A distinguished senator asks whether physicians cannot collect from their patients the quarter million dollar tax that a majority of the Senate Finance Committee recommends be levied annually on the medical profession. This senator realizes the true nature of the proposed tax; it is a tax on the sick. If the increased tax is viewed in this light, it is merely a subterfuge; Congress cannot directly tax the sick, so the committee plans to tax them through a tax imposed on physicians. Doubtless the committee expects the medical profession itself to carry this tax, and doubtless the medical profession will carry it, if it is levied. But is Congress willing to go before the peo-

ple on any such issue? Whether the proposed tax is viewed as a tax on physicians or a tax on the sick, the responsibility for injecting it into the tax reduction program cannot be explained away by a supposedly tottering constitutionality of the Harrison Narcotic Law, tottering because of the inadequacy of the present tax. Not only has the United States Supreme Court sustained the law when the revenues derived from it were much less than they are today, but it has expressly put upon Congress full responsibility for the tax provisions of the bill, reiterating in *U. S. v. Doremus*, 249 U. S. 86, what the court had said before, that the only limitation on the taxing power of Congress is the requirement that the tax be uniform throughout the United States and that even the U. S. Supreme Court cannot add others. Congress has full authority to reject the proposal for an increased tax. It is not yet too late to protest.—*Jour. A. M. A.*, May 12, 1928.

### EVER HAPPEN TO YOU?

A customer paused before a counter laden with various kinds of electrical devices. The girl on the other side of the counter didn't act exactly like a member of a reception committee, although she did have her thin cheeks daubed with rouge.

"I want to get a pull-chain socket," said the customer. "I see there are two kinds here—one for twenty-five cents and another for thirty-five. What's the difference?"

"I don't know; I guess the thirty-five-cent one's the best," answered the girl, repressing a yawn.

"Are they approved by the insurance underwriters?"

"Are they what?" she inquired with languid interest.

He repeated the question—with explanations.

"I don't know. They must be all right. We sell lots of 'em," she replied.

He had selected one and handed it to her to be wrapped up. She dropped it on the floor, but finally got it enclosed in a paper bag and returned it to him—with the wrong change. While she was correcting the mistake, he remarked:

"I should think your job would be very tiresome—standing up so much and waiting on so many people."

"Yeah. But I get a lotta kick outta watchin' the dumbbells that come in here to buy."—"Kalends."

### SET 'EM UP

A Los Angeles patrolman had brought in a negro woman somewhat the worse for wear, and the desk sergeant, with his very best scowl, roared:

"Liza, you've been brought in for intoxication!"

"Dat's fine!" beamed Liza. "Boy, you can start right now!"—*Los Angeles Times*.

### PAYS TO BE ON THE JOB

The man who takes a nap while holding a steering wheel usually wakes up holding a harp instead.—*Louisville Times*.





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### Book Notes

**THE SURGICAL CLINICS OF NORTH AMERICA** (issued serially, one number every other month). Volume 8, number 4. (Philadelphia Number—August, 1928), 285 pages with 91 illustrations. Per Clinic year (February, 1928, to December, 1928). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this number are Drs. Babcock, Bothe, Carnett, Dacosta, Deaver, Eason, Ferguson, Frazier, Grant, Kelly, Klopp, Lee, Mosser, Nassau, Pfeiffer, Shallow, Speese, Smith, Jr.

#### AN INTRODUCTION TO EXPERIMENTAL PHARMACOLOGY.

By Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica at Western Reserve University, Cleveland, and Paul J. Hanzlik, M. D., Professor of Pharmacology at Stanford University, San Francisco, Calif. Octavo volume of 321 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.25 net.

This volume is an adaptation of the authors' laboratory guide in pharmacology. Part one is devoted to chemical pharmacology, and part two to experimental pharmacodynamics.

**PREVENTIVE MEDICINE.** By Mark F. Boyd, M. D., C. P. H., Member of Regular Field Staff, International Health Division of Rockefeller Foundation; formerly Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Third Edition, Revised. Octavo volume of 475 pages with 151 illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.50 net.

In this work the text has been subject to a thorough revision. Much new material has been incorporated, necessitated by important developments occurring the last three years.

#### BRONCHIAL ASTHMA—ITS DIAGNOSIS AND TREATMENT.

By Harry L. Alexander, M. D. Illustrated. Philadelphia: Lea & Febiger, 1928. Price, \$2.25.

The purpose of this book is to present an outline of Bronchial Asthma. Throughout emphasis is placed on the fact that this type of asthma is not a disease entity but a clinical expression of a constitutional defect. The factors which underlie an asthmatic pharacism are discussed in several chapters.

**A TEXT-BOOK OF FRACTURES AND DISLOCATIONS.** By Kellogg Speed, M. D. Second Edition, and thoroughly revised. Illustrated with 987 engravings. Philadelphia, 1928. Price, \$11.00 net.

This work covers the pathology, diagnosis and treatment for fractures. The text has been completely rewritten, and suitable paragraph headings have been

(Continued on page 15)

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### CONTENTS—Continued

Every Day Uses of Radium. A. James Larkin, M. D., Chicago .....	315
Paranasal Sinus Infection in Infants and Children. S. M. Morwitz, M. D., Chicago.....	317
The McKinley Test for Epidemic Encephalitis Lethargica. Harold S. Hulbert, M. D., Chicago.....	321

### EDITORIALS

Go to the Polls and Vote, November 6.....	249
You May Not Be Interested in Politics.....	250
American Public Health Association.....	252
Notice, Dr. Green.....	253
Advertising Solicitor Wanted.....	253
Beg Your Pardon.....	253
Doctors Hodgen-Mudd Memorial.....	253
Voluntary and Public Health Agencies.....	254

(Continued on page 40)

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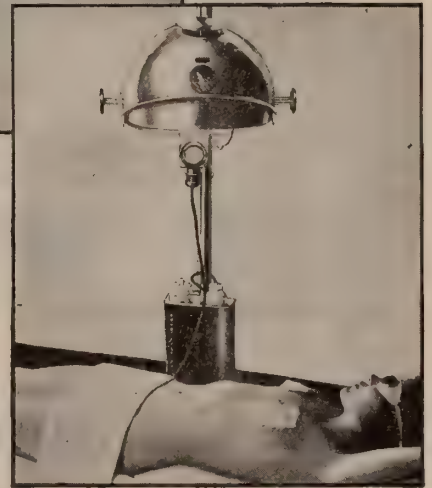
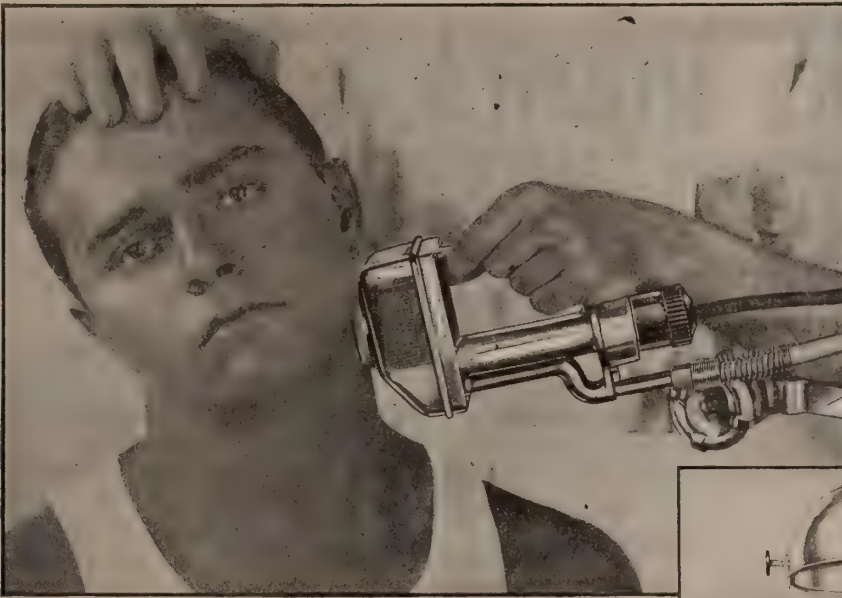
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### Book Notes

(Continued from page 11)

employed to aid the student. Many illustrations have been added.

The general chapters on treatment and operative treatment, retained in this edition, have been amplified to cover present day use and practice.

CONQUEST OF DISEASE. By Thurman B. Rice, M. D.  
New York: The MacMillan Company, 1927. Price, \$2.50.

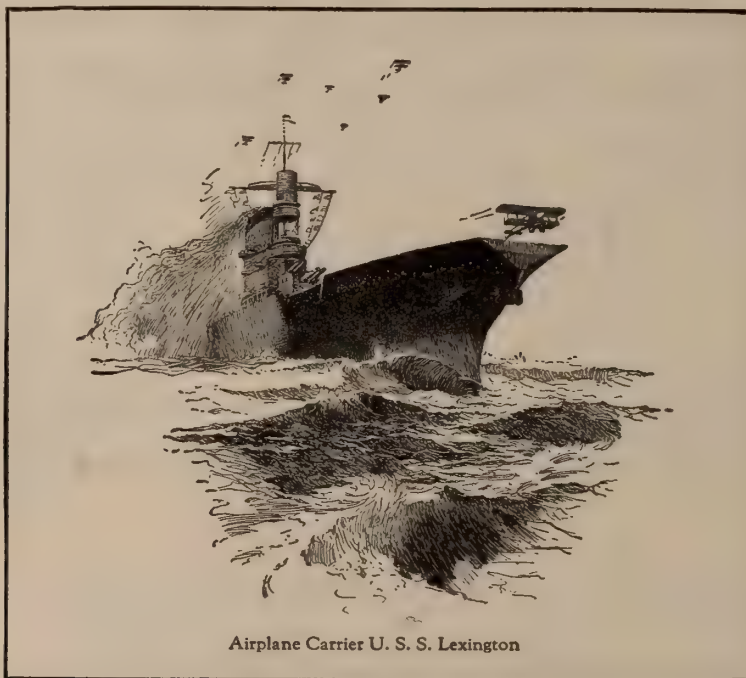
This work covers the following phases of health work. It sets forth the most recent scientific information concerning the transmissible diseases and shows how communicable diseases may be controlled or perhaps ultimately eradicated.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on all medical specialties. Volume III. Thirty-eight Series. Philadelphia and London: J. B. Lippincott Company, 1928. Price —

Contributors to this volume are Ralph Boerne Bettman, Oscar Bittman, Allen W. Freeman, Alfred Gordon, M. H. Gross, I. W. Held, Raymond Pearl, George Morris Piersol, William Henry Porter, Sir Humphrey Bart-Rolleston, Charles E. de M. Sajous, William P. Smith, Ira S. Wile.

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Fibrositis—The Prescriber, Nov. 1926.

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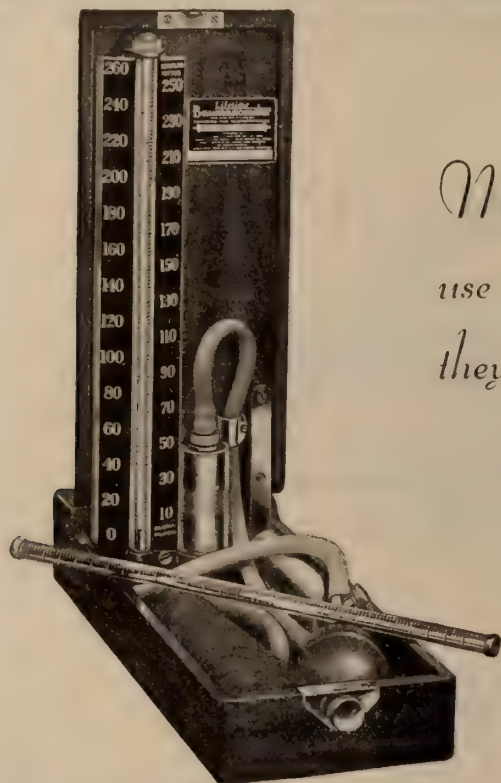


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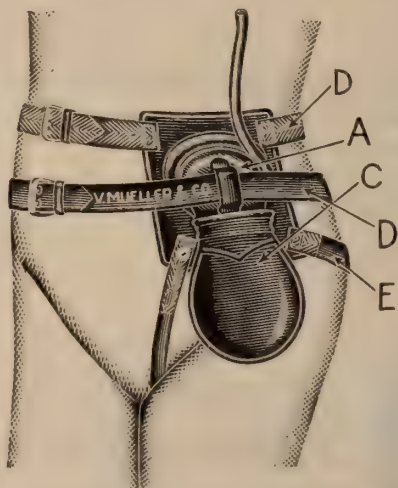
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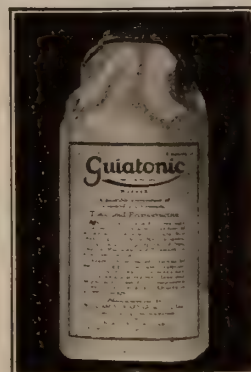
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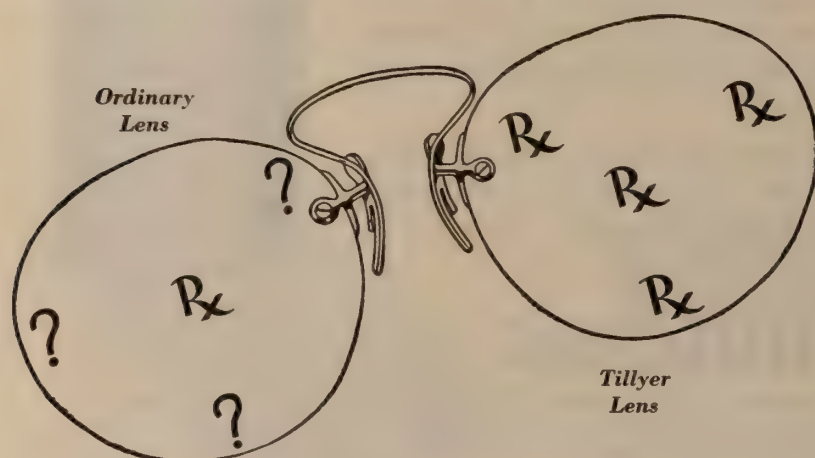
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Vitamin C in Japan green tea has been the subject of an interesting study<sup>1</sup> to substantiate the original findings of Miura.<sup>2,3</sup> Experiments with guinea pigs now show the minimal daily curative dose of Japan green tea to be apparently between ten and fifteen cc. of a two per cent infusion.

This quantitative data was obtained during a comparative study of the antiscorbutic vitamin in various commercial teas. Forty guinea pigs were selected, divided into three groups, and the curative method followed. One group was given a fermented tea, another a semi-fermented tea, and the third Japan green tea.

Differences of curative potency in the teas have been attributed largely to differences in preparation. Oxidation is known to destroy easily Vitamin C. But familiar Japan green tea, obtained through the ordinary commercial sources, is kept free from oxidation during the curing process. Exposure to the action of live steam immediately after picking seals the pores of the leaves and safeguards the tea against fermentation.

Recent experimental findings appear further to increase the importance of Vitamin C in Japan tea. They suggest that the amount of the vitamin needed for prevention of scurvy is but a small part of what is required for full health and vigor. Authorities suggest that several times the minimal essential of Vitamin C should be taken in each day's diet. Habitual low intake of Vitamin C produces a general malaise characterized by these symptoms: sallow, muddy complexion, loss of energy, fleeting pains in joints and limbs frequently mistaken for rheumatism.

In planning diets to increase the intake of Vitamin C, physicians may find in Japan green tea a convenient means. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.

---

<sup>1</sup> As this is an advertisement, it has not been possible to give here the name of the American scientist and of the University concerned. These names will be supplied to physicians upon application. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.

<sup>2</sup> Miura, M: *Proc. Japanese Assoc. Agricult. Chem.*, Vol. 1, No. 1, October, 1924.

<sup>3</sup> Miura, M: *Publ. Assoc. Tea Merchants*. Feb. 1926.

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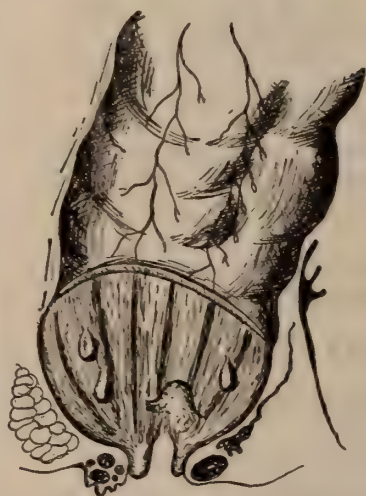
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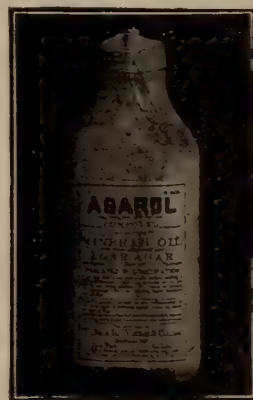
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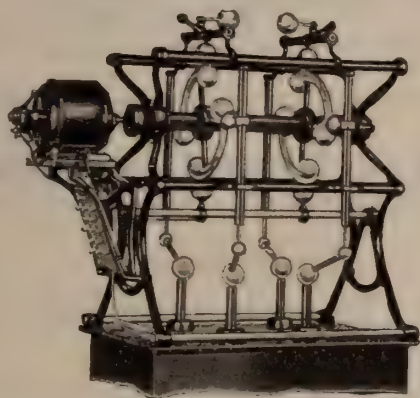




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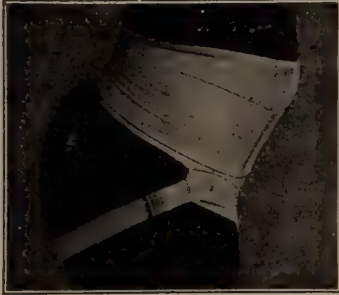
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## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 35

### BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 42  
State Bank and Trust Company, Evanston, Ill... 46

### BOOKS

McDonough & Co., Chicago, Ill..... 40  
Miller, Charles Conrad, 32 N. State St., Chicago.. 40

### CLINIC

Welborn Hospital Clinic, Evansville, Ind..... 43

### FARMS

Michell Farm, Peoria, Ill..... 35

### FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago ..... 23  
Horlick's Malted Milk, Racine, Wis..... 11  
Knox Gelatine Laboratories, Johnstown, N. Y.... 48  
Livermeal Corporation, 420 Madison Ave., New York City ..... 29  
Mead Johnson & Co., Evansville, Ind..... 51  
Mellin's Food Co., Boston, Mass..... 14  
Merrell-Soule Co., Syracuse, N. Y..... 25  
Sims Malt-O-Wheat Co., St. Paul, Minn..... 41

### HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill. .... 42

### HOTELS

Hotel Blackstone, New York City..... 41

### INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 6

### LABORATORY

Abbott Laboratories, North Chicago, Ill..... 21  
Columbus Laboratories, 31 N. State St..... 2  
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill. .... 22  
Fischer Laboratories, 25 E. Washington St., Chicago, Ill. .... 42  
Harrower Laboratory, 160 N. La Salle St., Chicago, Ill..... 10  
Keystone Laboratory ..... 43  
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill. .... 30  
Loesser Laboratory, 22 West 26th St., New York City ..... 14  
Metz Laboratory, 122 Hudson St., New York..... 4

### MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St..... 40  
Illinois Post Graduate Medical School, Chicago.. 32  
Post Graduate Hospital and Medical School, Chicago ..... 30  
Tulane University, New Orleans..... 15

### OPTICIANS

American Optical Co., Southbridge, Mass..... 20  
Dow Optical Co., 30 N. Michigan Ave., Chicago.. 27  
Riggs Optical Co., 5 S. Wabash Ave., Chicago.... 44  
White-Haines Optical Co., Columbus, Ohio..... 41

### PASTEUR INSTITUTE

Chicago Pasteur Institute.....

### PHARMACEUTICALS

American Tobacco Co. .... 45  
Armour & Co., Chicago..... 24  
Arlington Chemical Co., Yonkers, N. Y..... 41  
BiSoDol Co., 130 Bristol St., New Haven, Conn... 49  
Burnham Soluble Iodine Co., Auburndale, Mass.. 37  
Carrick, G. W., & Co., 411 Canal St., New York.. 7  
Ciba Company, Cedar and Washington Sts., New York City ..... 52  
Denver Chemical Co..... 17  
Fellows Medical Mfg. Co., 26 Christopher St., New York ..... 27  
Haley M-O Co., Geneva, N. Y..... 15  
Hoffman-La Roche Chemical Co., New York City.. 9  
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore ..... 30  
Intravenous Products Co. of America, 239 4th Ave., New York City..... 44  
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo..... 19  
Lavoris Chemical Co., Minneapolis, Minn..... 2  
Lilly, Eli & Co., Indianapolis, Ind..... 38  
Merck and Co., Inc., Rahway, N. J..... 2  
New York Pharmacal Association, Yonkers, N. Y.. 29  
Nonspi Co., Kansas City, Mo..... 31  
Palisade Mfg. Co., Yonkers, N. Y..... 26  
Parke, Davis & Co., Detroit, Mich..... 43  
Patch, E. L., Co., Boston, Mass..... 25  
Purdue, Frederick, Co., 135 Christopher St., New York City ..... 37  
Sharp & Dohme, 41 John St., New York City.... 37  
Smith, Kline & French Co., 105 N. 5th St., Philadelphia, Pa. .... 12, 47  
Standard Oil Co. (Indiana)..... 5  
Standard Oil Co. (New Jersey)..... 8  
Winthrop Chemical Co., 117 Hudson St., New York City .....  
U. S. Standard Products Co., 35 E. Wacker Drive, Chicago ..... 34  
Wm. R. Warner & Co., 113 W. 18th St., New York City ..... 19, 28, 33

### RADIUM

Evansville Radium Institute, Evansville, Ind.... 37  
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill..... 12  
Radium Extension Service, 185 N. Wabash Ave., Chicago ..... 46

### SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago ..... 35  
Chicago Sanitarium, 1919 Prairie Ave..... 33  
Cincinnati Sanitarium, Cincinnati, Ohio..... 32  
Edward Sanitarium, Naperville, Ill..... 31  
Kenilworth Sanitarium, Kenilworth, Ill..... 36  
Milwaukee Sanitarium, Wauwatosa, Wis., Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 36  
Oconomowoc Health Resort, Oconomowoc, Wis... 52  
Palmer Sanatorium, Springfield, Ill..... 46  
Dr. Stokes Sanatorium, Louisville, Ky..... 44  
Waukesha Springs Sanitarium, Waukesha, Wis.. 36  
Wilgus Sanitarium, Rockford, Ill..... 36  
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo..... 30

### SURGICAL INSTRUMENTS AND DRESSINGS

Acme International X-Ray Co., 700 W. Lake St., Chicago ..... 29  
W. A. Baum and Co., 100 Fifth Ave., New York City ..... 18  
Hanovia Chemical & Mfg. Co., Newark, N. J..... 13  
Huston Bros., 30 E. Randolph St., Chicago.....  
Mueller Co., V., 1771 Ogden Ave., Chicago..... 18  
Sanitarium & Hospital Equipment Co., Battle Creek, Mich..... 3  
Sharp and Smith, 65 E. Lake St., Chicago..... 32  
Victor X-Ray Corporation, 236 S. Robey St., Chicago ..... 16

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### CONTENTS—Continued

#### CORRESPONDENCE

Is National Tuberculosis Association A. W. O. L.? Dr. G. Henry Mundt .....	259
Medical Profession Should Attend. Dr. Samuel W. Welch .....	259
What If Nobody Cared? Dr. J. R. Neal .....	260

#### NEWS OF STATE

Marriages .....	323
Personals .....	323
News Notes .....	323
Deaths .....	324





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Medical evangelists work themselves into a holy furor over the hardened medical sinners who never come to a medical meeting, who scoff at hospital staff meetings, and who simply cannot be interested in the problems of organized medicine. Attractive post-graduate clinics are arranged for, but they do not attend. We start too late. Instead of wasting our energies on the obviously damned, let us devote more attention to the young doctor, just born professionally. The intern year is a formative period which medical societies have neglected. Encourage the young doctor to attend meetings, to take part in staff programs, to assume some responsibility in our organization. Very soon, all this will become a habit that will be life-long, and productive of both pleasure and profit.—*Genesee County Medical Bulletin.*

## A DOCTOR'S PRAYER

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And find each close of day,  
Myself a little nearer truth,  
A little farther on my way.

A little life,  
But give me, God, the pow'r  
To conquer self and all the doubts  
That rise from hour to hour.

And give me strength,  
When problems try my soul,  
To know the right and do the right  
With honesty my goal.

Nor let me fail  
To do the best I can,  
To overcome earth's greatest curse,  
The base ingratitude of man.

—H. Edwin Lewis.

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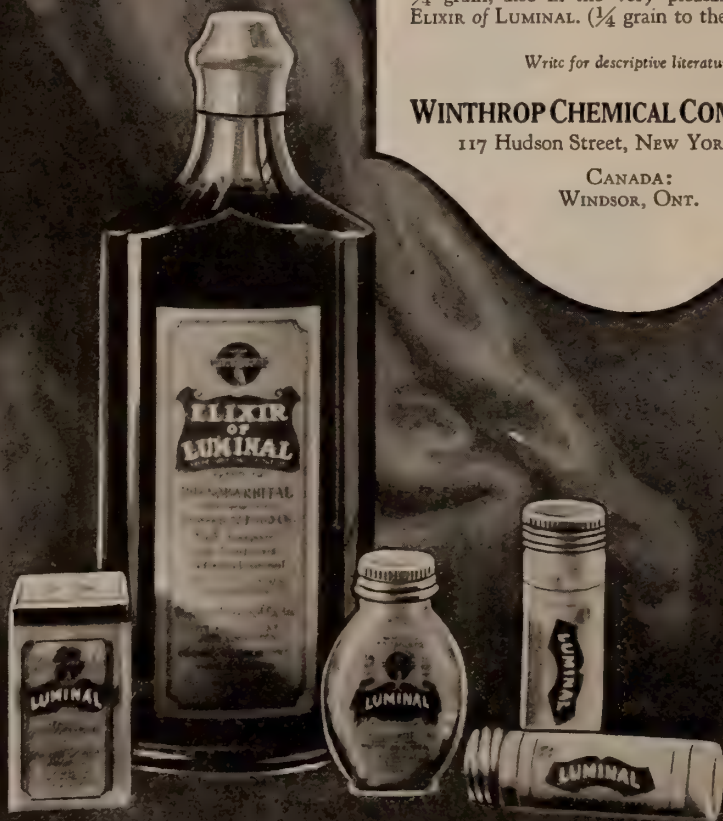
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### CONTENTS—Continued

Lung Abscess. L. E. Handelman, M. D., Chicago.....	385
Clinical Aspects of Ovarian Transplantation: 44 Cases. Max Thorek, M. D., Chicago.....	389

#### EDITORIALS

Leprosy a Vanishing Disease.....	325
Increasing Cancer Death Rate.....	326
Cancer from Imperfect Digestion.....	326
Georgia Will Publish State History.....	327
Hospital Care Costs More.....	327
Scarcity of Physicians in the Country.....	328
NOTICE. Papers for Annual Meeting.....	329
Advertising Solicitor Wanted.....	329
Dean Cutter a Member of History Committee.....	330
Woman's Auxiliary News.....	330

#### CORRESPONDENCE

Faith Cure a Contradiction Still.....	333
Legislation Activities. Dr. J. R. Neal.....	334
Volunteer Health Organizations vs. State Medicine. George Thomas Palmer .....	337
University of Illinois Not in Practice of Medicine. D. J. Davis .....	337
President Kinley on State Medicine.....	338
Back Numbers of JOURNAL Wanted.....	338

(Continued on page 40)

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## “DENICOTINED” TOBACCO DECLARED A FRAUD

“Denicotinized” or “denicotined” tobacco, which has recently appeared on the market in the form of cigarettes, cigars and smoking tobaccos, is little more than a fraud, according to a report of experiments made by chemists of the Connecticut Agricultural Experiment Station. Samples of these “denicotinized” brands showed, on analysis, 72 per cent of the amount of nicotine contained in the average unprocessed brands. Some of the popular branch of cigarettes and smoking tobaccos actually contained less nicotine than some of the processed brands. Nine kinds of widely advertised and well known cigarettes, three kinds of cigars and four kinds of smoking tobacco were examined and compared with the alleged “denicotinized” brands. The term “denicotinized” or “denicotined” is naturally taken to mean practically free from nicotine, whereas in the brands sold under that description, the cigarettes contained from 2.32 to 0.94 per cent of nicotine. The popular unprocessed cigarettes examined showed from 1.28 to 2.89 per cent. Unprocessed cigars ranged from 1.16 to 1.90 per cent, the “denicotined” from 0.67 to 1.07 per cent. Smoking tobaccos unprocessed, contained from 1.45 to 2.09 per cent, the “denicotinized” from 0.97 to 2.26 per cent. Obviously it is better to buy the standard unprocessed brands which are known to have a low nicotine content, especially as the purchaser will then have no false sense of security.

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—E. P. CUMBERBATCH  
M.B., D.M.R.E., M.R.C.P.

*From a paper read before the Southport Division of the British Medical Assn., March 30, 1928. (British Med. Jour., July 14, 1928)*



*Reprint No. 587 of the above article in full will be sent on request.*

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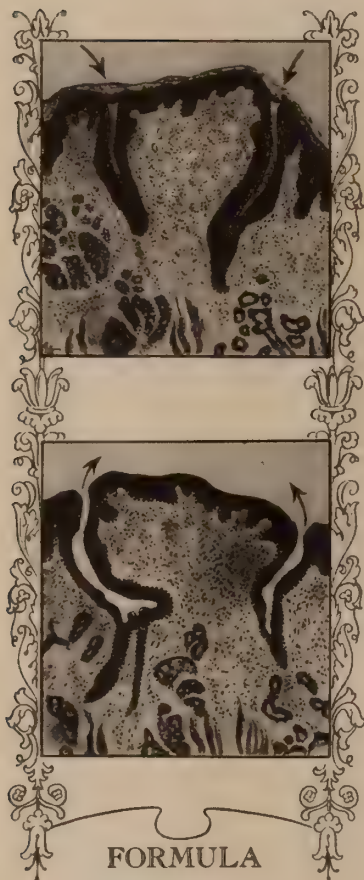
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## Book Notes

**PROBLEMS IN SURGERY; UNIVERSITY OF WASHINGTON GRADUATE MEDICAL LECTURES FOR 1927.** By George W. Crile, M. D., edited by Amy F. Rowland. Octavo volume of 171 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1928. Cloth, \$4.00 net.

This volume is a record of various subjects which seem to the author to be of prime importance in present day surgery.

**THE SURGICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume 8, number 5. (New York Number—October, 1928) 293 pages with 141 illustrations. Per Clinic year (February, 1928, to December, 1928.) Paper \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this volume are Doctors Bancroft, Barringer, Berg, Brakeley, Carleton, Cole, Dean, Jr., Farr, Goldstein, Gordon, Held Jessup, Loizeaux, Murray, Neer, Roberts, Brown, Tenney, Tritsch.

**LEAGUE OF NATIONS HEALTH ORGANIZATIONS FINAL REPORT OF THE LEAGUE ON HUMAN TRYPANOSOMIASIS.** Price \$1.00.

**SPASMOPHILIA.** By Edward C. Wrightsman, M. D. Boston. The Gorham Press. 1928.

This work is the result of the author's fifteen years observation in spasmophilia. It is intended, primarily,

for the general practitioner. Part One treats of rickets and gives the etiology types of spasmophilia, differential diagnosis and treatment of disease. Part Two deals with infant feeding in all its stages.

**A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS.** By Hugh A. McGuigan, M. D. Professor of Pharmacology and Therapeutics, University of Illinois, School of Medicine, Chicago. Octavo volume of 660 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1928. Cloth, \$6.00 net.

This book presents clearly the important facts of pharmacology, and gives the basis for these facts. The author connects physiology, biochemistry and pharmacology with clinical application. The work is rich in literature citations.

**THE MEDICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume XII, Number II. (Nebraska University Number, September, 1928.) Octavo of 254 pages with 40 illustrations. Per clinic year, July, 1928, to May, 1929. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1928.

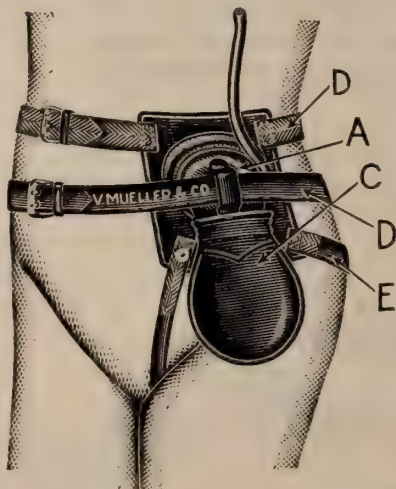
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(Continued on page 50)

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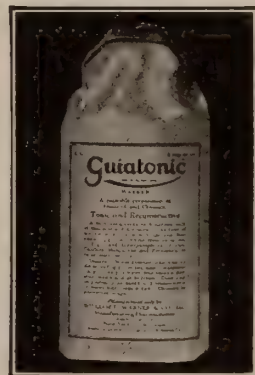


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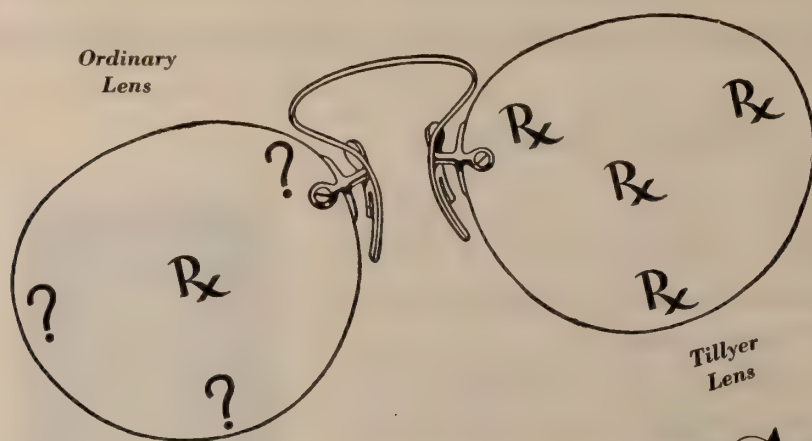
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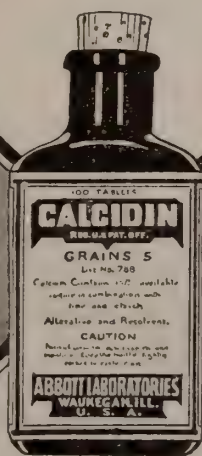
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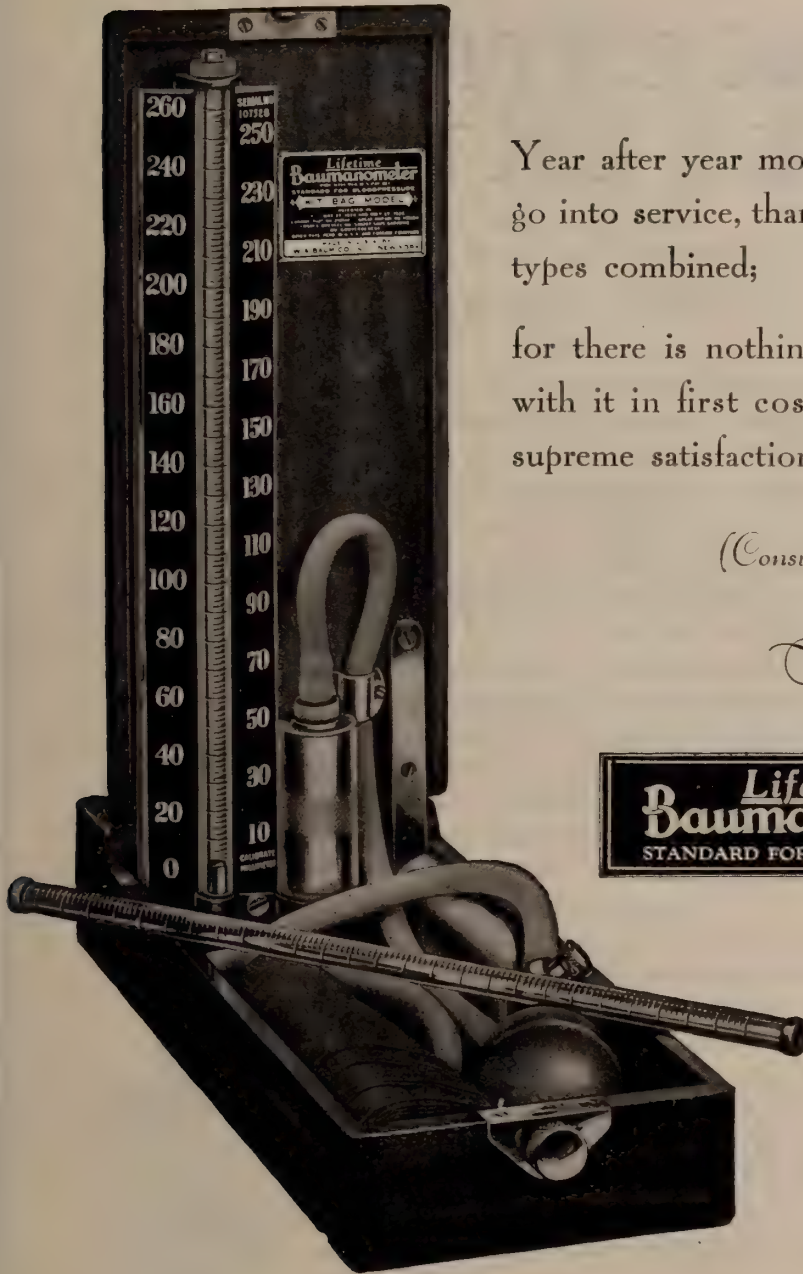
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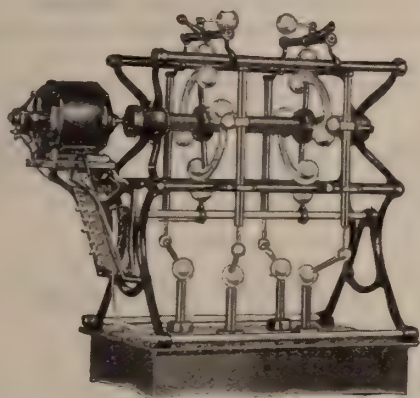




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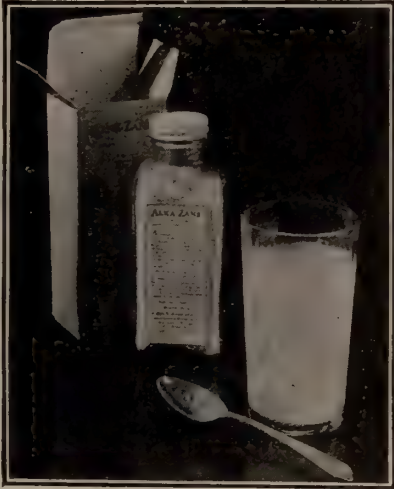
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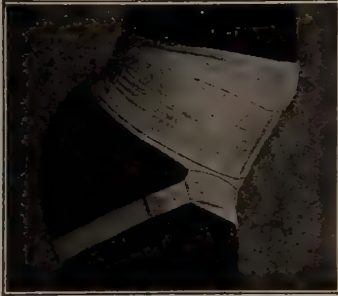
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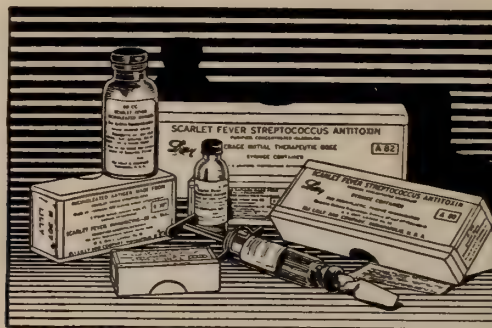
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## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 35

### BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 42  
State Bank and Trust Company, Evanston, Ill. ... 46

### BOOKS

McDonough & Co., Chicago, Ill. .... 40

### CLINIC

Welborn Hospital Clinic, Evansville, Ind. .... 43

### FARMS

Michell Farm, Peoria, Ill. .... 35

### FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago ..... 11  
Horlick's Malted Milk, Racine, Wis. .... 48  
Knox Gelatine Laboratories, Johnstown, N. Y. .... 29  
Livermeal Corporation, 420 Madison Ave., New York City ..... 14  
Mead Johnson & Co., Evansville, Ind. .... 25  
Mellin's Food Co., Boston, Mass. .... 41  
Merrell-Soule Co., Syracuse, N. Y. .... 25  
Sims Malt-O-Wheat Co., St. Paul, Minn. .... 41

### HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill. .... 42

### HOTELS

Hotel Blackstone, New York City. .... 41

### INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind. .... 6

### LABORATORY

Abbott Laboratories, North Chicago, Ill. .... 21  
Columbus Laboratories, 31 N. State St. .... 2  
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill. .... 22  
Fischer Laboratories, 25 E. Washington St., Chicago, Ill. .... 42  
Harrower Laboratory, 160 N. La Salle St., Chicago, Ill. .... 10  
Keystone Laboratory ..... 43  
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill. .... 30  
Loesser Laboratory, 22 West 26th St., New York City ..... 14  
Metz Laboratory, 122 Hudson St., New York. ....

### MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St. .... 40  
Illinois Post Graduate Medical School, Chicago. .... 32  
Post Graduate Hospital and Medical School, Chicago ..... 30  
Tulane University, New Orleans. .... 15

### OPTICIANS

American Optical Co., Southbridge, Mass. .... 20  
Dow Optical Co., 30 N. Michigan Ave., Chicago. .... 27  
Riggs Optical Co., 5 S. Wabash Ave., Chicago. .... 44  
White-Haines Optical Co., Columbus, Ohio. .... 41

### PASTEUR INSTITUTE

Chicago Pasteur Institute. .... 15

### PHARMACEUTICALS

American Tobacco Co. .... 45  
Armour & Co., Chicago. .... 24  
Arlington Chemical Co., Yonkers, N. Y. .... 24  
BiSoDol Co., 130 Bristol St., New Haven, Conn. .... 49  
Burnham Soluble Iodine Co., Auburndale, Mass. .... 37  
Carnrick, G. W., & Co., 411 Canal St., New York. .... 7  
Ciba Company, Cedar and Washington Sts., New York City ..... 52  
Denver Chemical Co. .... 17  
Fellows Medical Mfg. Co., 26 Christopher St., New York ..... 27  
Haley M-O Co., Geneva, N. Y. .... 15  
Hoffman-La Roche Chemical Co., New York City. .... 9  
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore ..... 30  
Intravenous Products Co. of America, 239 4th Ave., New York City ..... 44  
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo. .... 19  
Lavoris Chemical Co., Minneapolis, Minn. .... 38  
Lilly, Eli & Co., Indianapolis, Ind. .... 2  
Merck and Co., Inc., Rahway, N. J. .... 2  
New York Pharmacal Association, Yonkers, N. Y. .... 29  
Nonspi Co., Kansas City, Mo. .... 31  
Palisade Mfg. Co., Yonkers, N. Y. .... 26  
Parke, Davis & Co., Detroit, Mich. .... 43  
Patch, E. L., Co., Boston, Mass. .... 25  
Purdue, Frederick, Co., 135 Christopher St., New York City ..... 25  
Sharp & Dohme, 41 John St., New York City. .... 37  
Smith, Kilne & French Co., 105 N. 5th St., Philadelphia, Pa. .... 12, 47  
Standard Oil Co. (Indiana). .... 5  
Standard Oil Co. (New Jersey). .... 8  
Winthrop Chemical Co., 117 Hudson St., New York City ..... 4  
U. S. Standard Products Co., 35 E. Wacker Drive, Chicago ..... 34  
Wm. R. Warner & Co., 113 W. 18th St., New York City ..... 19, 28, 33

### RADIUM

Evansville Radium Institute, Evansville, Ind. .... 37  
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill. .... 12  
Radium Extension Service, 185 N. Wabash Ave., Chicago ..... 46

### SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago ..... 35  
Chicago Sanitarium, 1919 Prairie Ave. .... 33  
Cincinnati Sanitarium, Cincinnati, Ohio. .... 32  
Edward Sanitarium, Naperville, Ill. .... 31  
Kenilworth Sanitarium, Kenilworth, Ill. .... 36  
Milwaukee Sanitarium, Wauwatosa, Wis. Front Cover  
Norbury Sanitarium, Jacksonville, Ill. .... 36  
Oconomowoc Health Resort, Oconomowoc, Wis. .... 52  
Palmer Sanatorium, Springfield, Ill. .... 46  
Dr. Stokes Sanatorium, Louisville, Ky. .... 44  
Waukesha Springs Sanitarium, Waukesha, Wis. .... 36  
Wilgus Sanitarium, Rockford, Ill. .... 36  
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo. .... 30

### SURGICAL INSTRUMENTS AND DRESSINGS

Acme International X-Ray Co., 700 W. Lake St., Chicago ..... 29  
W. A. Baum and Co., 100 Fifth Ave., New York City ..... 23  
Hanovia Chemical & Mfg. Co., Newark, N. J. .... 13  
Huston Bros., 30 E. Randolph St., Chicago. .... 18  
Mueller Co., V., 1771 Ogden Ave., Chicago. .... 3  
Sanitarium & Hospital Equipment Co., Battle Creek, Mich. .... 32  
Sharp and Smith, 65 E. Lake St., Chicago. .... 16  
Victor X-Ray Corporation, 236 S. Robey St., Chicago ..... 16

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### CONTENTS—Continued

#### SOCIETY PROCEEDINGS

Adams County .....	395
Cook County: Chicago Medical Society.....	396
De Kalb County .....	396
Macoupin County .....	397

Tri-County .....	397
Marriages .....	398
Personals .....	398
News Notes .....	398
Deaths .....	400



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(Continued on page 50)



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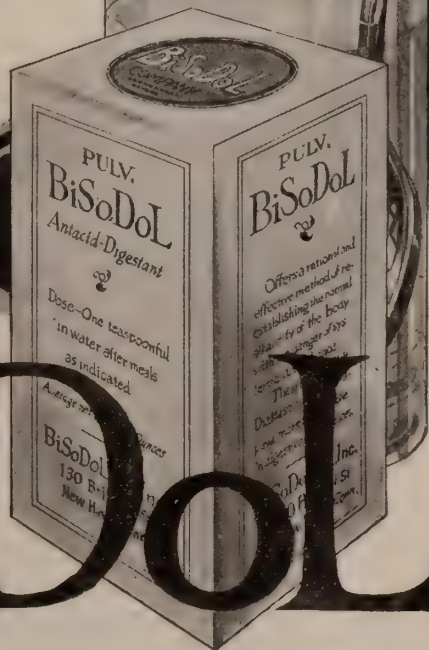
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Williamson	R. J. Hyslop, Herrin	B. Socoloff, Clifford.
Winnebago	W. L. Crawford, Rockford	K. G. Woodward, Rockford.
Woodford	F. D. McNertney, El Paso	S. M. Burdon, Low Point.

## Book Notes

(Continued from page 18)

**THE TRUTH ABOUT MIND CURE.** By William S. Sadler, M. D., Chicago. A. C. McClurg & Company. Price, \$2.00.

In this work the author presents two view points of mind cure—the scientific, based upon the systematic study of the mind, and the religious, which depends upon faith for its support.

**CRITERIA FOR THE CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE.** By a committee appointed by the Heart Committee of the New York Tuberculosis and Health Association, Inc. New York. Paul B. Hoeber, Inc. 1928. Price, \$1.50 net.

**ESSENTIALS OF PRESCRIPTION WRITING.** By Cary Eggleston, M. D., Assistant Professor of Clinical Medicine, Cornell University, Medical School. Fourth Edition, Revised. 16 mo. of 153 pages. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$1.50 net.

In this work the entire text has been revised. The nomenclature has been made to conform to the alterations that have been introduced into the new pharmacopoeia and the National Formulary so as to bring the material up to date.

**A TEXT BOOK OF SURGERY.** By W. Wayne Babcock, M. D., F. A. C. S., Professor of Surgery and of Clinical Surgery in the Temple University, Philadelphia; Surgeon to the Samaritan Hospital and to the American Hospital for Diseases of the Stomach. Octavo of 1,367 pages, with 1,050 illustrations, 9 of them in colors. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$10.00 net.

This work corollates and systematizes the advanced surgical thought of the present time. It expresses the author's reaction to the past and especially to the present. This work brings the known knowledge of

surgery up to date and should prove invaluable to the undergraduate and the practicing surgeon.

**SYPHILIS.** By Charles C. Dennie, M. D. New York. Harper & Brothers, Publishers. Price, \$2.50.

This work is addressed primarily to the general practitioners, giving him only those facts which he needs in his practice for diagnosis and treatment. In authoritativeness convenient form and price it succeeds admirably in filling his needs.

The author has selected the essentials, the fundamentals on the subject and presents them with remarkable clarity and simplicity. The work is built on the author's experience in caring for syphilitic patients.

**LABORATORY MANUAL OF THE MASSACHUSETTS GENERAL HOSPITAL.** By Roy R. Wheeler, M. D., and F. T. Hunter, M. D. Second edition, enlarged and thoroughly revised. Philadelphia. Lea & Febiger, 1928. Price, \$1.75 net.

In this edition there has been much revision. Much new material has been added. A few procedures now no longer used have been omitted. Several new laboratory tests have been included.

**PHYSICAL EDUCATION ACTIVITIES.** By the staff of the Department on Physical Education for Women, University of Michigan. Illustrated with 54 engravings. Philadelphia. Lea & Febiger, 1928. Price, \$3.50 net.

The material in this book is offered as suggestions for activities in a physical education program for high school girls. The material used is largely the choice of personal experience.

**BACTERIOLOGY.** By Arthur Isaac Kendall, Dr. Ph. D. Third edition thoroughly revised. Illustrated with 103 engravings and 8 plates. Philadelphia. Lea & Febiger. 1928. \$7.00 net.

This work covers a bacteriology general, pathological and intestinal. The work has undergone a thorough revision, much new material has been added. The work has been brought strictly up-to-date.





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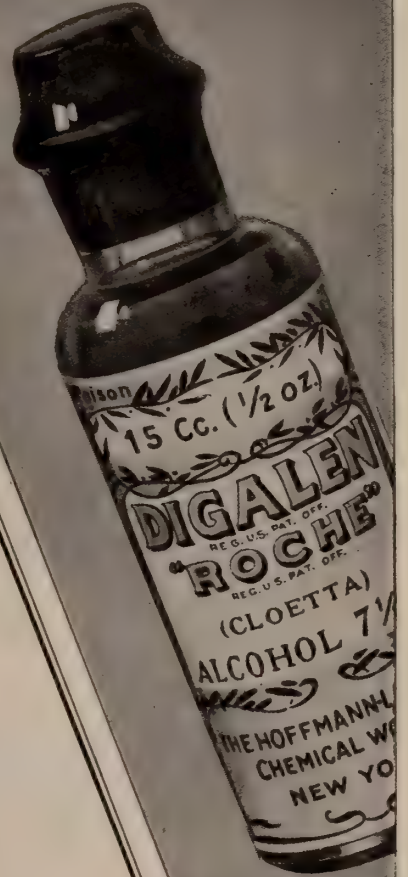
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### CONTENTS—Continued

#### EDITORIALS

Merry Christmas .....	401
Hazards of Medical Practice.....	401
Notice—Surgical Section Program.....	402
Essential Features of State Medicine.....	402
State Medicine Defined.....	402
Application of Pay Clinic for Chicago.....	403
Cultism in Illinois and Pennsylvania.....	406
Antivivisection Bill in Legislature.....	408
Alcoholism in the Army.....	409
Alcohol in Illinois.....	409
Educational Committee, November-December.....	409
Illinois State Trudeau Society.....	410
American Board of Otolaryngology.....	411
Post-Graduate Courses in Berlin.....	411

#### CORRESPONDENCE

Women's Auxiliary News. Mrs. G. Henry Mundt.....	411
Des Plaines Protests.....	412
Back Numbers of Journal Wanted.....	412

(Continued on page 40)

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## Book Notes

**NEUROLOGICAL EXAMINATION.** An exposition of tests with interpretation of signs and symptoms. By Charles A. McKendree, M.D., Associate, Department of Neurology, College of Physicians and Surgeons, Columbia University. With a foreword by Henry Alsop Riley, M.D. 12mo of 280 pages with 88 illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$3.25 net.

The purpose of this book is to familiarize the medical student and those interested in post-graduate specializations with a comprehensive and systematic form of examination of the central nervous system. The author has described various tests and made clear why such tests are applied and has correlated abnormal findings with the symptoms expressed.

**THE ELEMENTS OF THE SCIENCE OF NUTRITION.** By Graham Lusk, Ph.D., Sc.D., Professor of Physiology at the Cornell University Medical College, New York City. Fourth Edition, Reset. Octavo of 844 pages. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$7.00 Net.

This work, the same as the previous edition, reviews the scientific substratum upon which rests present day knowledge of nutrition, both in health and disease.

**REGIONAL ANESTHESIA,** by Gaston Labat, M.D. Clinical Professor of Surgery, University and Bellevue Hospital Medical College, New York City; Laureate of the Faculty of Sciences, Uni-

versity of Montpelier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia, The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M.D. Second Edition. Revised. Octavo of 567 pages with 367 original illustrations. Philadelphia — London: W. B. Saunders Company, 1928. Cloth, \$7.50.

In this edition complete revision has been made of the whole text, desirable alterations and valuable additions being promoted by the experienced required in many years of research, teaching and practice. The sections on cervical plexus block and brachial plexus block have been retouched with new material produced in the laboratory.

The chapter on Subarachnoid block has been entirely rewritten.

**THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1929.** Revised. New York: William Wood & Company. Price, \$2.00.

This handy book for physicians and surgeons again comes to us in up-to-date form for 1929. It contains the yearly calendar estimation of the probable duration of pregnancy, approximate equivalents of temperature, weight, capacity, measure, etc., maximum adult doses by the mouth in apothecaries' and decimal measures, solutions for subcutaneous injections, contagious disease diagnostic table and much miscellaneous information. It contains the usual visiting list, blank special memorandum pages for sixty patients per week.

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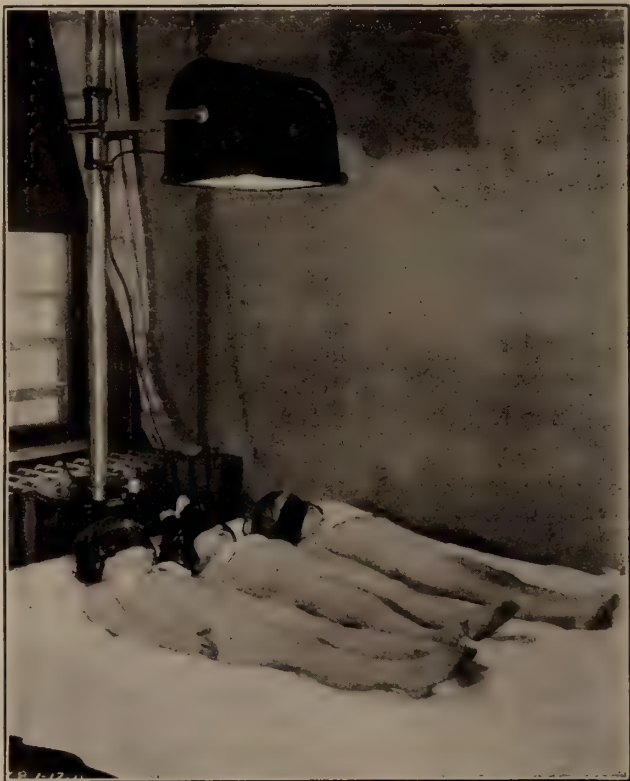
"It is easy to use, effective, rapid in its action, rich in ultraviolet light of therapeutic value, clean, economical both in first cost and current consumption, suitable for either a general light bath or local treatment. It occupies little space, and is easily installed in a doctor's consulting room.

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—Sir Henry Gauvain, M.D., M. Chir. (Cantab.), in his introduction to J. Bell Ferguson's "The Quartz Mercury Vapour Lamp."

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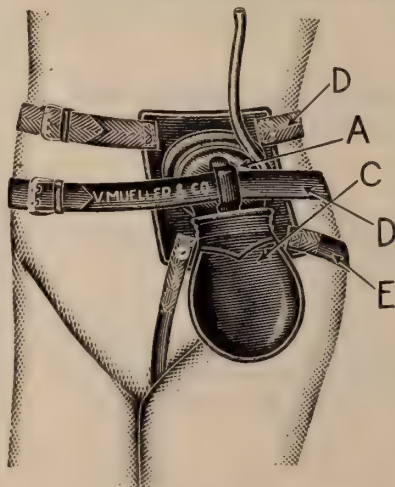
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This superior appliance actually combines all the attributes so keenly desired by the surgeon for the benefit of his patient.



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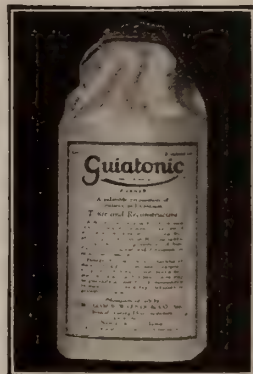
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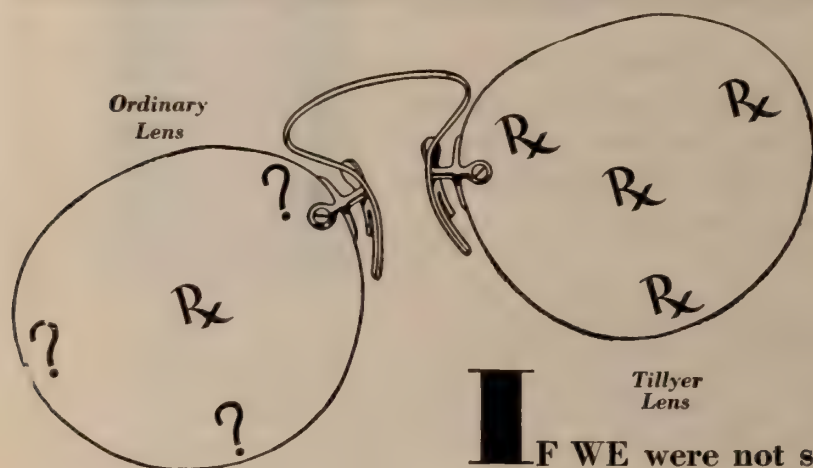
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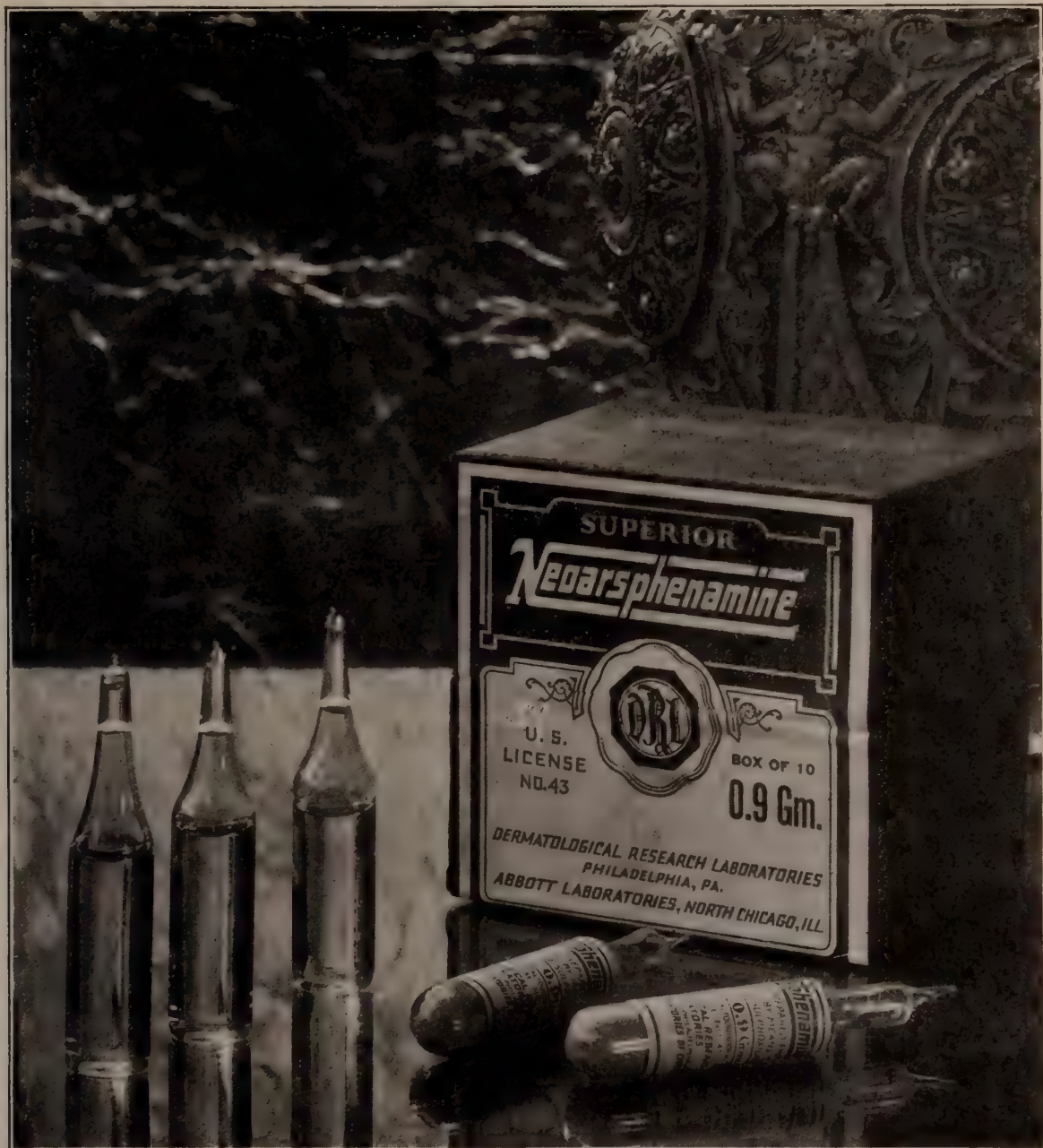


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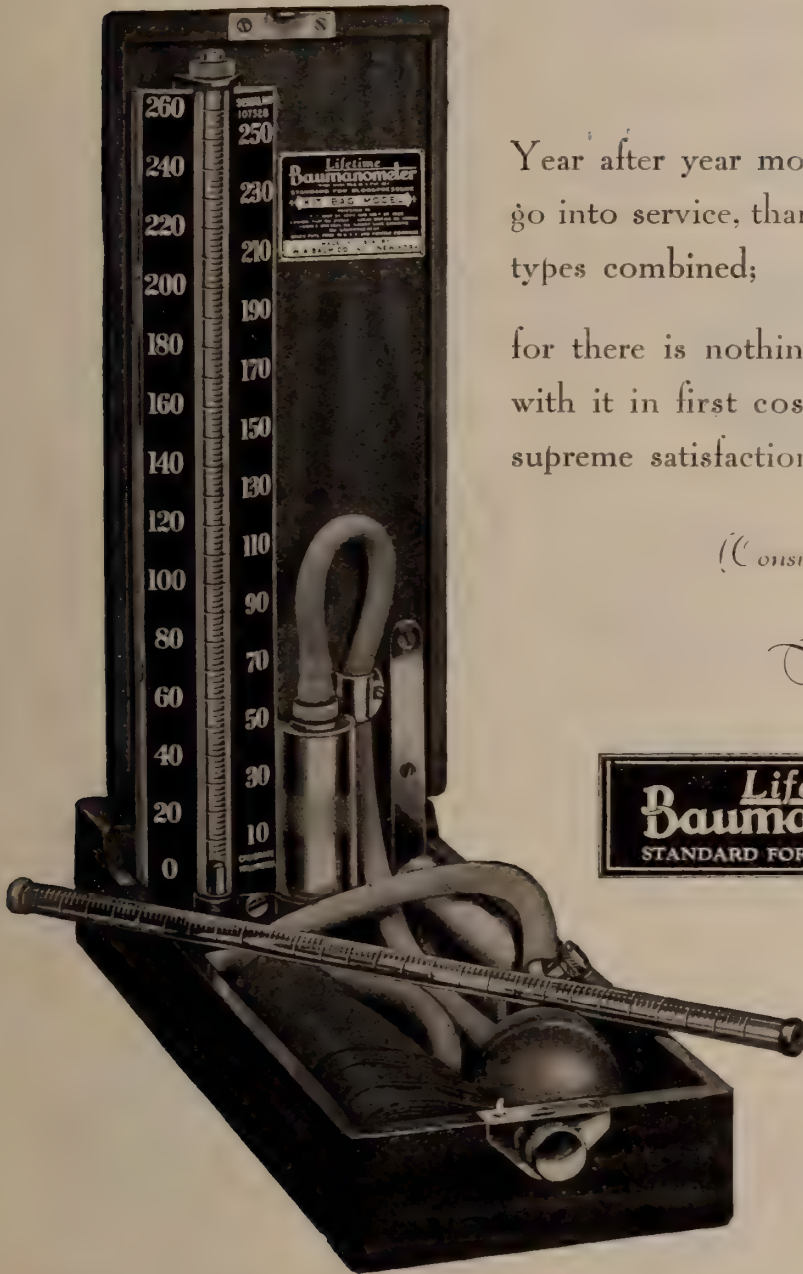
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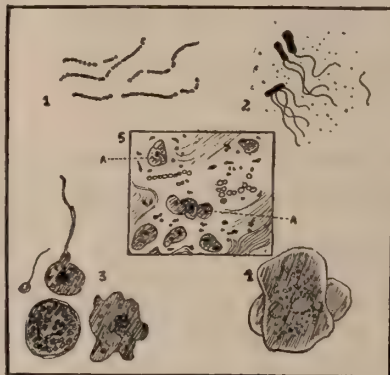
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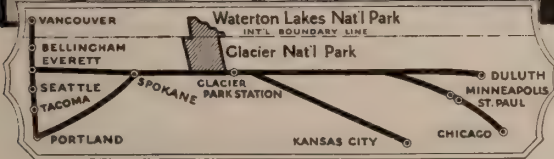
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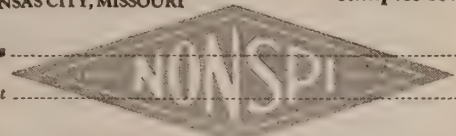
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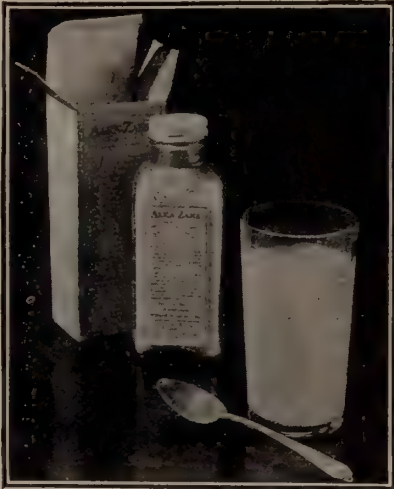
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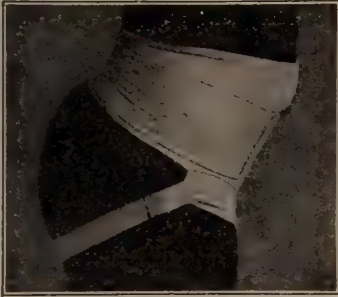
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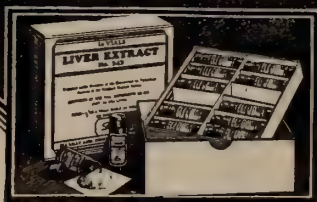
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## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 35

### BANKS

Sheridan Trust and Savings Bank, 4738 Broadway 42  
State Bank and Trust Company, Evanston, Ill... 46

### BOOKS

McDonough & Co., Chicago, Ill..... 40

### CLINIC

Welborn Hospital Clinic, Evansville, Ind..... 43

### FARMS

Michell Farm, Peoria, Ill..... 35

### FOOD

American-Japanese Tea Committee, Wrigley Bldg., Chicago ..... 50  
Horlick's Malted Milk, Racine, Wis..... 11  
Knox Gelatine Laboratories, Johnstown, N. Y. .... 48  
Livermeal Corporation, 420 Madison Ave., New York City ..... 29  
Mead Johnson & Co., Evansville, Ind..... 51  
Mellin's Food Co., Boston, Mass..... 14  
Merrell-Soule Co., Syracuse, N. Y..... 25  
Sims Malt-O-Wheat Co., St. Paul, Minn..... 41

### HOSPITAL

Chicago Fresh Air Hospital, 2451 Howard St., Chicago, Ill. .... 42

### HOTELS

Hotel Blackstone, New York City..... 41

### INVESTMENTS AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 6

### LABORATORY

Abbott Laboratories, North Chicago, Ill..... 21  
Columbus Laboratories, 31 N. State St. .... 2  
Deshell Laboratories, Inc., 536 Lake Shore Drive, Chicago, Ill. .... 22  
Fischer Laboratories, 25 E. Washington St., Chicago, Ill. .... 42  
Harrower Laboratory, 160 N. La Salle St., Chicago, Ill. .... 10  
Keystone Laboratory ..... 43  
Lincoln-Gardner Laboratory, 30 N. Michigan Ave., Chicago, Ill. .... 30  
Loeser Laboratory, 22 West 26th St., New York City ..... 14  
Metz Laboratory, 122 Hudson St., New York.... 4

### MEDICAL SCHOOLS

Chicago Polyclinic, 956 N. Clark St..... 40  
Illinois Post Graduate Medical School, Chicago.. 32  
Post Graduate Hospital and Medical School, Chicago ..... 30

### OPTICIANS

American Optical Co., Southbridge, Mass..... 20  
Dow Optical Co., 30 N. Michigan Ave., Chicago.. 27  
Riggs Optical Co., 5 S. Wabash Ave., Chicago.... 44  
White-Haines Optical Co., Columbus, Ohio..... 41

### PASTEUR INSTITUTE

Chicago Pasteur Institute.....

### PHARMACEUTICALS

Alkalol Co., Taunton, Mass..... 18  
American Tobacco Co..... 45  
Armour & Co., Chicago..... 24  
Arlington Chemical Co., Yonkers, N. Y..... 31  
BiSoDol Co., 130 Bristol St., New Haven, Conn... 49  
Burnham Soluble Iodine Co., Auburndale, Mass.. 37  
Carrick, G. W., & Co., 411 Canal St., New York... 7  
Ciba Company, Cedar and Washington Sts., New York City ..... 52  
Denver Chemical Co..... 17  
Fellows Medical Mfg. Co., 26 Christopher St., New York ..... 27  
Haley M-O Co., Geneva, N. Y..... 15  
Hoffman-La Roche Chemical Co., New York City.. 9  
Hynson, Westcott & Dunning, Charles & Chase Sts., Baltimore ..... 30  
Intravenous Products Co. of America, 239 4th Ave., New York City..... 44  
Katharmon Chemical Co., 101 N. Main St., St. Louis, Mo..... 19  
Lavoris Chemical Co., Minneapolis, Minn..... 38  
Lilly, Eli & Co., Indianapolis, Ind..... 2  
Merck and Co., Inc., Rahway, N. J..... 2  
New York Pharmacal Association, Yonkers, N. Y.. 29  
Nonspi Co., Kansas City, Mo..... 29  
Pallade Mfg. Co., Yonkers, N. Y..... 26  
Parke, Davis & Co., Detroit, Mich..... 24  
Patch, E. L., Co., Boston, Mass..... 24  
Purdue, Frederick, Co., 135 Christopher St., New York City ..... 25  
Sharp & Dohme, 41 John St., New York City.... 37  
Sandoz Chemical Works, Inc., 708 Washington St., New York City..... 43  
Smith, Kline & French Co., 105 N. 5th St., Philadelphia, Pa. .... 12, 47  
Standard Oil Co. (Indiana)..... 5  
Standard Oil Co. (New Jersey)..... 8  
Winthrop Chemical Co., 117 Hudson St., New York City ..... 4  
U. S. Standard Products Co., 35 E. Wacker Drive, Chicago ..... 34  
Wm. R. Warner & Co., 113 W. 18th St., New York City ..... 19, 28, 33

### RADIUM

Evansville Radium Institute, Evansville, Ind.... 37  
Physicians' Radium Association, 6 N. Michigan Ave., Chicago, Ill..... 12  
Radium Extension Service, 185 N. Wabash Ave., Chicago ..... 46

### RAILROADS

Great Northern Ry..... 29

### SANATORIA AND SANITARIA

James H. Appleman, Sanitarium, 4335 Oakenwald Ave., Chicago ..... 35  
Chicago Sanitarium, 1919 Prairie Ave..... 33  
Cincinnati Sanitarium, Cincinnati, Ohio..... 32  
Edward Sanitarium, Naperville, Ill..... 31  
Kenilworth Sanitarium, Kenilworth, Ill..... 36  
Milwaukee Sanitarium, Wauwatosa, Wis.. Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 36  
Normandale, Madison, Wis..... 11  
Oconomowoc Health Resort, Oconomowoc, Wis... 52  
Palmer Sanatorium, Springfield, Ill..... 46  
Dr. Stokes Sanatorium, Louisville, Ky..... 44  
Waukesha Springs Sanitarium, Waukesha, Wis.. 36  
Wilgus Sanitarium, Rockford, Ill..... 36  
Willows Maternity Sanitarium, 2927-29 Main St., Kansas City, Mo..... 30

### SURGICAL INSTRUMENTS AND DRESSINGS

W. A. Baum and Co., 100 Fifth Ave., New York City ..... 23  
Hanovia Chemical & Mfg. Co., Newark, N. J..... 13  
Huston Bros., 30 E. Randolph St., Chicago..... 18  
Mueller Co., V., 1771 Ogden Ave., Chicago..... 18  
Sanitarium & Hospital Equipment Co., Battle Creek, Mich. .... 3  
Sharp and Smith, 65 E. Lake St., Chicago..... 32  
Victor X-Ray Corporation, 236 S. Robey St., Chicago ..... 16

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### BOOK REVIEW

**THE DAILY HEALTH BUILDER.** B. C. Ward Crampton, M. D. Illustrated. New York-London. G. P. Putnam's Sons. 1928. Price \$1.50.

This book is based on the author's experience in handling the exercise problems of thousands of men, women and children. The work is entirely free from technical words and medical phrases.

**TEXT-BOOK OF UROLOGY.** By Daniel N. Eisendrath, M. D., and Harry C. Rolnick, M. D. 700 black and white illustrations and 11 in color. Philadelphia and London. J. B. Lippincott Company, 1928.

This work is intended for students and practitioners. It is quite exhaustive starting with embryology of the genito-urinary tracts through all the various diseases and complications and operative technic utilized in the successful treatment of this specialty.

**A PRACTICAL MEDICAL DICTIONARY.** By Thomas Lathrop Stedman. Tenth Revised Edition. Illustrated. New York: William Wood & Company, 1928. Price, \$7.50.

In this tenth edition there have been added five hundred new medical terms and note has been taken of changed or changing uses of as many old ones. This edition contains twelve hundred pages. The work has been brought strictly up-to-date and no modern medical library can afford to be without this valuable dictionary.

### CONTENTS—Continued

SOCIETY PROCEEDINGS			
		LaSalle County .....	466
Adams County .....	464	Southern Illinois .....	466
Cook County:		Marriages .....	466
Chicago Medical Society.....	465	Personals .....	466
DeKalb County .....	465	News Notes .....	467
District of Central Illinois.....	465	Deaths .....	468



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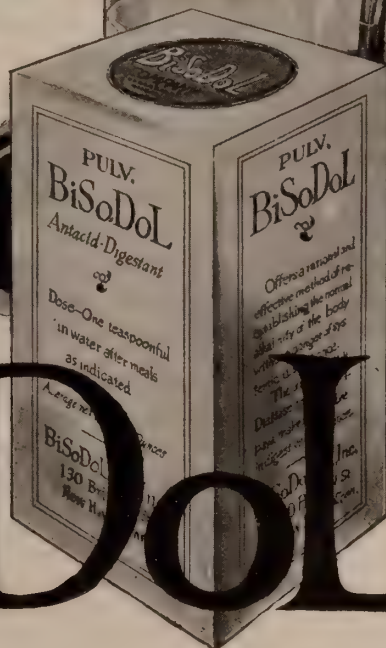
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# The value of Japan Tea in the diet



Recent laboratory studies direct attention to the dietary value of Japan green tea. Miura's work<sup>1, 2</sup> and subsequent experiments<sup>3</sup> to substantiate his findings have indicated the presence of Vitamin C. Physicians planning diets to increase the daily intake of the anti-scorbutic vitamin may now find in Japan tea a convenient method.

The curative potency of Japan tea the investigator finds "rather startling" in view of the small amount of solid matter in the infusion. A comparative study of the Vitamin C content of various commercial teas, fermented, semi-fermented, and Japan tea, has been carried out. Results show the minimal daily curative dose of Japan green tea to be "apparently between ten and fifteen cc. (about one-half fluid ounce) of a two per cent infusion." The findings suggest that presence of Vitamin C depends upon the fact that the leaves are unfermented.

It is generally accepted that Vitamin C is destroyed by oxidation. But in Japan green tea, such as obtained from the ordinary commercial sources, the method of preparation has pre-

vented the oxidasic enzymes from developing full activity. Through the action of live steam, pores of the freshly plucked leaves are sealed and the tea protected against fermentation.

Dietetic researches lately have suggested the probable widespread existence of "latent scurvy," due to lack of Vitamin C. Continual low intake of the vitamin produces a general malaise characterized by these symptoms: sallow, muddy complexion, loss of energy, fleeting pains in joints and limbs frequently mistaken for rheumatism. In the light of these findings, authorities are of the opinion that Japan green tea gains importance as a source of Vitamin C in the daily diet. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.

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<sup>1</sup> Miura, M: *Proc. Japanese Assoc. Agricult. Chem.* Vol. 1, No. 1, October, 1924.

<sup>2</sup> Miura, M: *Publ. Assoc. Tea Merchants.* Feb. 1926.

<sup>3</sup> As this is an advertisement, it has not been possible to give here the name of the American scientist and of the University concerned. These names will be supplied to physicians upon application. American-Japanese Tea Committee, 782 Wrigley Building, Chicago.











*The New York Academy of Medicine*

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